2XC
321

AUDIO-VIDEO STEREO RECEIVER

KR-V86R

SERVICE MANUAL

KENWO 984

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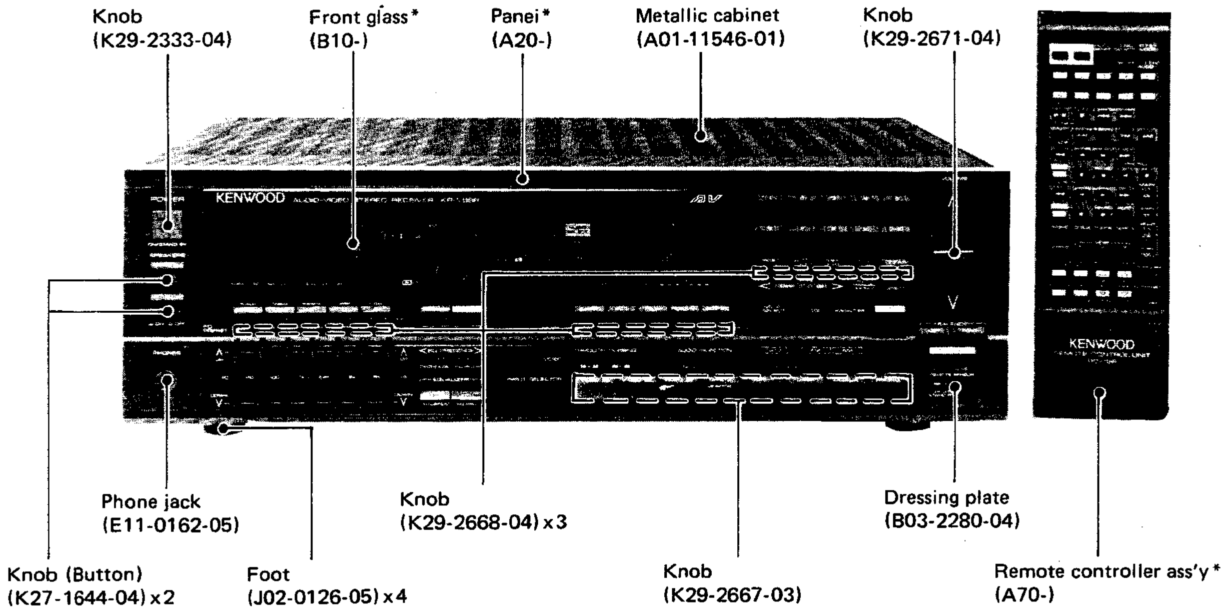
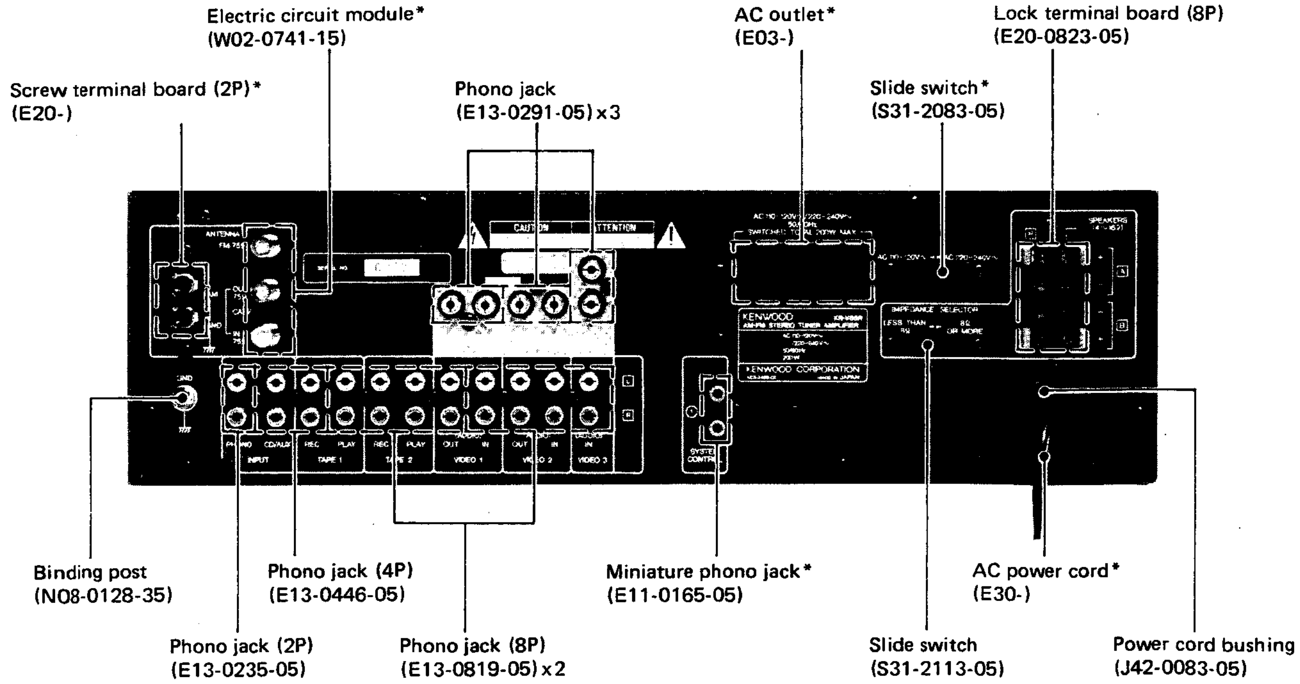
B51-3232-00 (O) 2238


Knob
(K29-2333-04)
Front glass*
(B10-)
Panel*
(A20-)
Metallic cabinet
(A01-11546-01)
Knob
(K29-2671-04)
Phone jack
(E11-0162-05)
Knob
(K29-2668-04) x3
Dressing plate
(B03-2280-04)
Knob (Button)
(K27-1644-04) x2
Foot
(J02-0126-05) x4
Knob
(K29-2667-03)
Remote controller ass'y*
(A70-)
KENWOOD


Electric circuit module*
(W02-0741-15)
AC outlet*
(E03-)
Lock terminal board (8P)
(E20-0823-05)
Screw terminal board (2P)*
(E20-)
Phono jack
(E13-0291-05) x3
Slide switch*
(S31-2083-05)
CAUTION
ATTENTION
Binding post
(N08-0128-35)
Phono jack (4P)
(E13-0446-05)
Miniature phono jack*
(E11-0165-05)
AC power cord*
(E30-)
Phono jack (2P)
(E13-0235-05)
Phono jack (8P)
(E13-0819-05) x2
Slide switch
(S31-2113-05)
Power cord bushing
(J42-0083-05)

*** Refer to parts list on page 47.**

984

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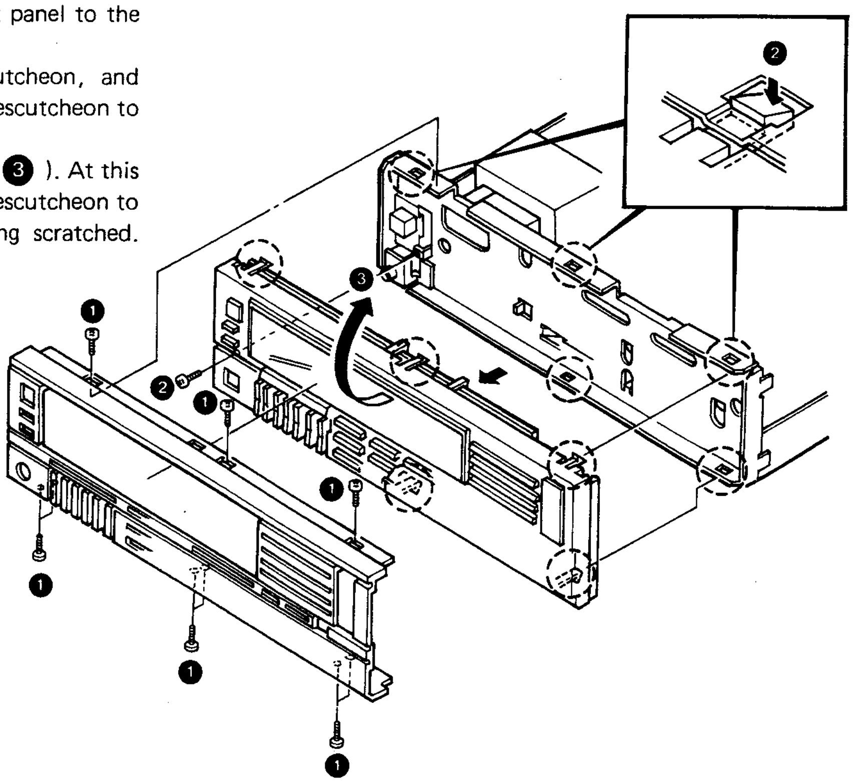
SPECIFICATIONS .... BACK COVER

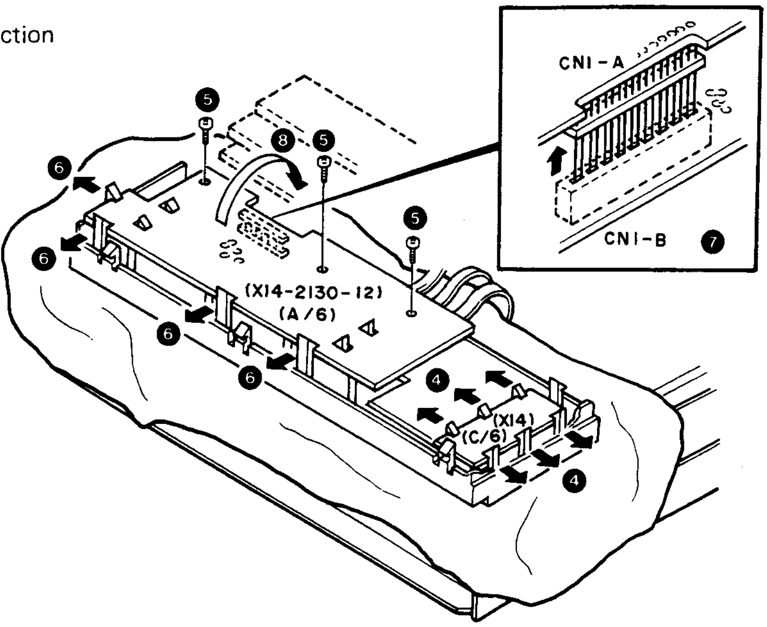
(Remove the metallic cabinet before performing the following operations.)

1. Remove the 9 screws retaining the front panel to the sub panel (❶).
2. Remove the screw on the panel escutcheon, and disengage the 5 claws retaining the panel escutcheon to the sub panel (❷).
3. Place the panel escutcheon on the unit (❸). At this time, place a cloth, etc., below the panel escutcheon to protect the panel escutcheon from being scratched.

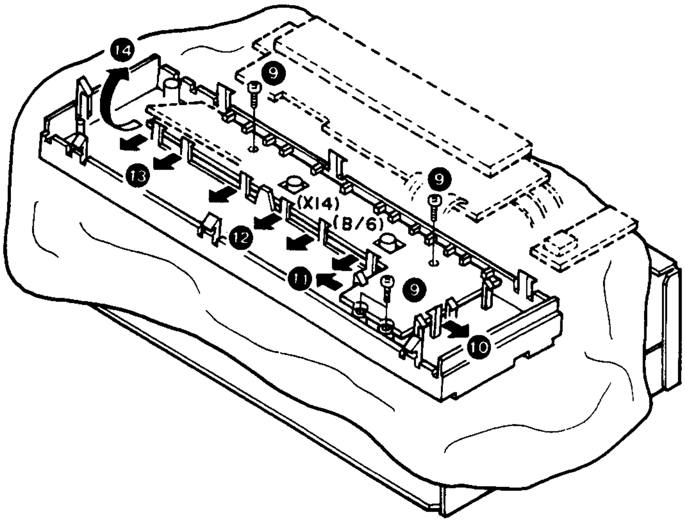


DISASSEMBLY FOR REPAIR

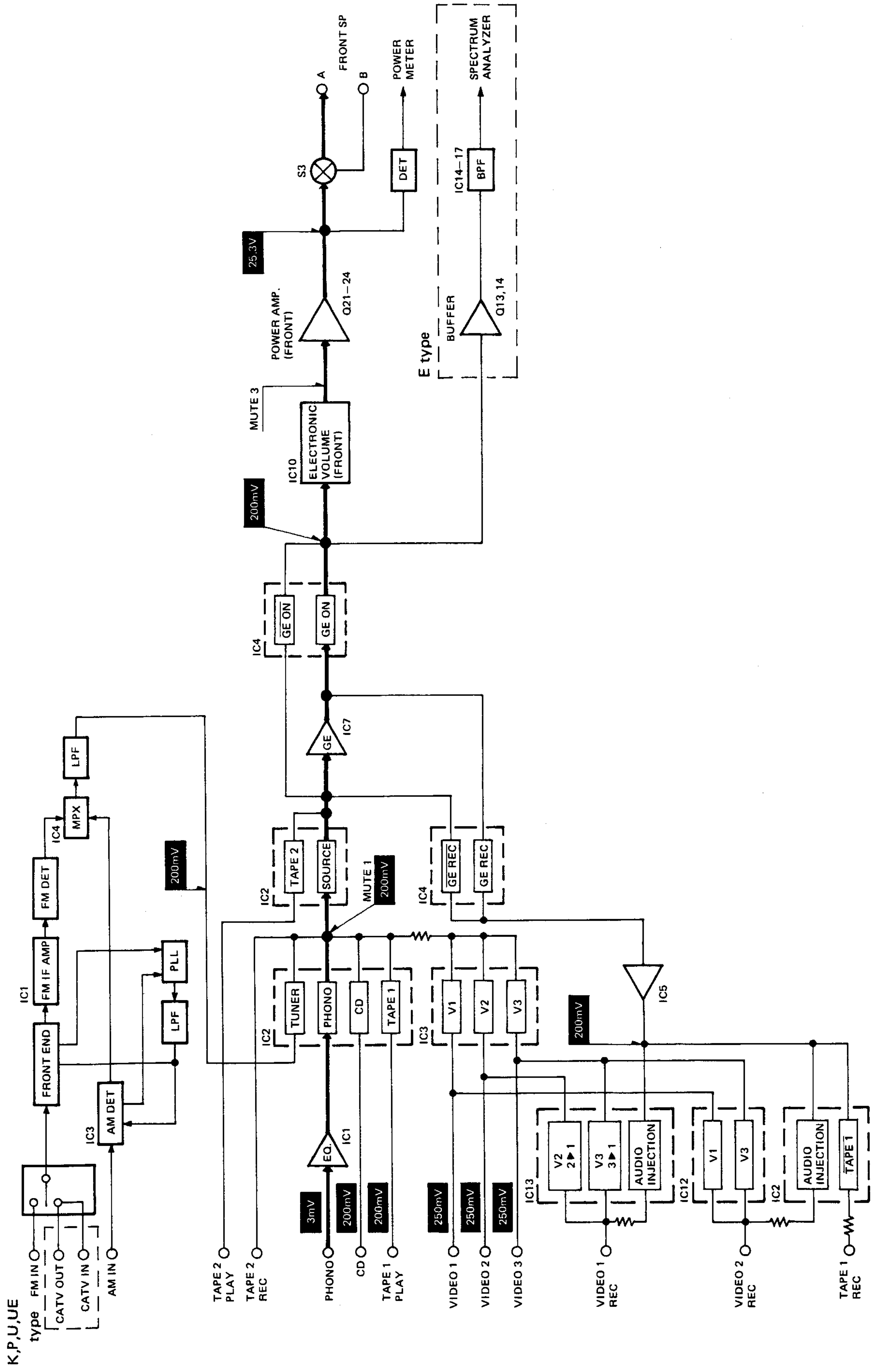
4. Disengage the 6 claws retaining the Display Unit (X14-2130-12) (C/6) to the panel escutcheon (④).
5. Remove the 3 screws retaining the Display Unit (X14-) (A/6) to the panel escutcheon (⑤).
6. Disengage the 4 claws retaining the Display Unit (X14-) (A/6) to the panel escutcheon (⑥).
7. Disconnect the connector (CN1-A,B) which have been connected to the Display Unit (X14-) (A/6) and (X14-) (B/6) (⑦).
8. Place the Display Unit (X14-) (A/6) in the direction of the arrow (⑧).



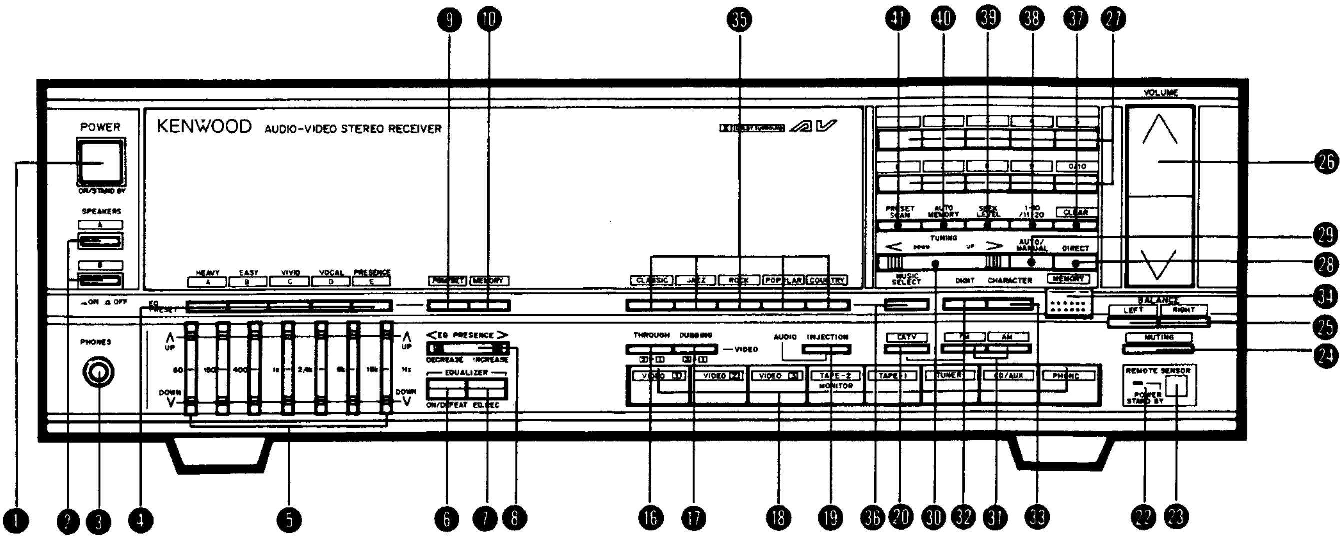
9. Remove the 4 screws retaining the Display Unit (X14-) (B/6) to the panel escutcheon (⑨).
10. Disengage the 8 claws retaining the Display Unit (X14-) (B/6) to the panel escutcheon. To facilitate this procedure, disengare the claws from right (⑩) to left (⑬).
11. Remove the Display Unit (X14-) (B/6) in the direction of the arrow (⑭).



BLOCK LEVEL DIAGRAM


K,P,U,UE type
FM IN
CATV OUT
CATV IN
AM IN
FRONT END
IC1
FM IF AMP
FM DET
IC4
MPX
LPF
PLL
LPF
IC3
AM DET
200mV
TAPE 2 PLAY
TAPE 2 REC
PHONO
3mV
EQ.
IC1
CD
200mV
TAPE 1 PLAY
200mV
IC2
TUNER
PHONO
CD
TAPE 1
MUTE 1
200mV
IC2
TAPE 2
SOURCE
IC7
GE
IC4
GE ON
GE ON
200mV
IC10
ELECTRONIC VOLUME (FRONT)
MUTE 3
POWER AMP. (FRONT)
Q21–24
25.3V
S3
A
B
FRONT SP
DET
POWER METER
E type
BUFFER
Q13,14
IC14–17
BPF
SPECTRUM ANALYZER
VIDEO 1
VIDEO 2
VIDEO 3
250mV
250mV
250mV
IC3
V1
V2
V3
IC4
GE REC
GE REC
IC5
200mV
IC13
V2 2▶1
V3 3▶1
AUDIO INJECTION
IC12
V1
V3
IC2
AUDIO INJECTION
TAPE 1
VIDEO 1 REC
VIDEO 2 REC
TAPE 1 REC

CONTROLS AND INDICATORS


⑨
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POWER
KENWOOD AUDIO-VIDEO STEREO RECEIVER
VOLUME
PHONES
SPEAKERS
EQ PRESENCE
DECREASE
INCREASE
EQUALIZER
ON/DEFEAT
EQ REC
CLASSIC
JAZZ
ROCK
POPULAR
COUNTRY
THROUGH
DUBBING
AUDIO INJECTION
VIDEO 1
VIDEO 2
VIDEO 3
TAPE-2 MONITOR
TAPE-1
TUNER
CD/AUX
PHONO
CATV
FM
AM
BALANCE
LEFT
RIGHT
MUTING
REMOTE SENSOR
POWER STAND BY
PRESET SCAN
AUTO MEMORY
SEEK LEVEL
CLEAR
TUNING
AUTO/MANUAL
DIRECT
MUSIC SELECT
DIGIT
CHARACTER
MEMORY
HEAVY
EASY
VIVID
VOCAL
PRESENCE

① POWER switch

Press this switch to turn on power. (The POWER STAND BY indicator lights.) Press it again to turn power off.

② SPEAKERS A and B switches

A,B OFF – This position silences all speakers to permit private use of headphones.

A ON – Activates speakers connected to the SPEAKERS A terminals on the rear panel.

B ON – Activates speakers connected to the SPEAKERS B terminals on the rear panel.

A,B ON – Activates speakers connected to the SPEAKERS A and B terminals simultaneously.

Note:

When the SPEAKERS A and B switches are used at the same time, the speakers connected to the SPEAKERS A and B terminals are connected in series. In this respect, whenever using the SPEAKERS A and B switches at the same time, be sure that two pairs of speakers are connected to the terminals A and B, otherwise no sound is output.

---

③ PHONES jack

Stereo headphones are plugged into this jack.

④ EQ (Equalizer) PRESET keys

Use these keys to store equalizer curves in memory or to recall them.

PGM: User-adjusted equalizer curves can be programmed as desired and stored in memory; up to five patterns.

SET: Five factory-preset equalizer curves are stored in memory.

Up to 10 equalizer curve memories are available in total. Press the PGM/SET key to select either the user-programmed pattern or the factory-preset pattern.

⑤ Equalizer level controls

Adjust these controls up and down to equalize the sound by ±12 dB to the center frequency indicated.

⑥ EQUALIZER key

Press this switch to ON and the frequency characteristic will be modified by passing through the graphic equalizer. In the DEFEAT position, the frequency characteristic remains unchanged.

⑦ EQ REC key

Used when recording the source onto the tape deck through the equalized response of the graphic equalizer.

⑧ EQ PRESENCE controls

Adjust these controls (INCREASE and DECREASE) to boost or attenuate the equalizer curve indicated.

⑨ PGM/SET key

Pressing this key alternates the preset equalizer curves to be recalled between PGM (user-programmed patterns) and SET (factory-preset patterns) groups.

⑩ Equalizer preset MEMORY key

This key is used to store an equalizer curve into the PGM PRESET memories. First, select the desired equalizer curve and then press this key. Then press any of the PRESET (A to E) keys. The selected equalizer curve will be stored in the memory indicated by the PRESET key pressed.

CONTROLS AND INDICATORS

⑯ THROUGH DUBBING [2] ► [1] key

This activate the through dubbing from VIDEO 2 to VIDEO 1.

⑰ THROUGH DUBBING [3] ► [1] key

This activate the through dubbing from VIDEO 3 to VIDEO 1.

Note:

Pressing the THROUGH DUBBING key twice will resume the previous mode.

⑱ Input selector switches

VIDEO 1 – Selects the video recorders connected to the VIDEO 1 jacks.
VIDEO 2 – Select the video recorders connected to the VIDEO 2 jacks.
VIDEO 3 – Select the video recorders connected to the VIDEO 3 jacks.
TAPE 1 – Press this switch to play back a tape deck connected to TAPE 1 jacks.
TAPE 2 – Press this switch to play back a tape deck connected to the TAPE 2 jacks. (The TAPE-2 switch is operated in priority to any other audio input systems.)
TUNER – Selects the tuner mode.
CD/AUX – Selects the source connected to the CD/AUX jacks.
PHONO – Selects the program source played on the turntable.

⑲ AUDIO INJECTION switch

Press this switch ON when replacing the sound of VIDEO 1, 2 with that of AUDIO source, or when the sound equalized by graphic equalizer is required on dubbing between VIDEO sources.

⑳ CATV ON/OFF switch

Press this switch to select FM 75Ω or CATV 75Ω antenna line.

㉒ REMOTE POWER STAND BY indicator

This indicator lights so far as the power cord is plugged into the AC outlet. It is lit to show that the POWER switch on the front panel or the POWER key on the remote control unit can be activated.

㉓ REMOTE SENSOR

Point the supplied remote control unit towards this sensor and operate. It blinks when the signal from the remote control unit is received.

㉔ MUTING key

When the muting key is pressed, the MUTING indicator in the display window will flash, and the overall listening sound level is reduced.

When the key is pressed again, you can restore exactly the same listening level as before.

㉕ BALANCE controls

Governs the amount of sound coming from each paired speakers to get optimum stereo effect. Pressing the RIGHT key will decrease the left channel volume and pressing the LEFT key will decrease the right channel volume. When the BALANCE controls is pressed, display window shows the BALANCE indicator.

㉖ VOLUME controls

This control adjusts the left- and right-channel volumes simultaneously. Set it for the desired listening level. Pressing the up (Λ) key increases the volume and pressing the down (V) key decreases it.

Note:

A slight noise is heard from the speakers when operating the VOLUME controls. This noise is the built-in microprocessor control signal and is not a fault.

㉗ Preset (numeric) keys

Use these keys to:

1) input directly the digits of frequencies, or
2) store and recall frequencies in the preset memory.

㉘ DIRECT key

Used to tune to the station directly. Input the desired frequency numerics with the numeric keys after pressing the DIRECT key.

CONTROLS AND INDICATORS

(29) AUTO/MANUAL (MONO) key
When this key is pressed, the AUTO indicator will light. The frequency will automatically stop at a station in automatic tuning mode. When a stereo broadcast is received, the output sound is automatically changed to stereo.

(30) TUNING key
Used to change the frequency. Pressing UP side will advance to the higher frequency and pressing DOWN side to the lower frequency.
In the station name input mode, this key is used to select the character.

(31) BAND selector switches
FM - For FM broadcasts.
AM - For AM broadcasts.

(32) DIGIT SELECT key
In the station name input mode, pressing this key advances the column after selecting the character with the Tuning UP/DOWN key. When this operation is repeated four time, the station name input mode will be released automatically.

(33) CHARACTER MODE key
Press this key to activate the station name input mode.

(34) MEMORY key
When the input mode is tuner mode, use this button to store new broudcast station data in the preset channel memory. By pressing the MEMORY key, setting the preset function key to 1-10 or 11-20 and by pressing one of the PRESET 10 key, the frequency being received is stored in the memory in the preset 10 key pressed.

(35) MUSIC SELECT key
Pressing this key alternates between the Music Select mode and the Preset indicator mode.

(36) MUSIC genre key
In the Preset indicator mode, a desired music genre can be stored into each Preset Channel memory button. In the Music select mode, this key is also used to select the music genre.

(37) CLEAR key
Used to clear the contents stored in the preset channel memory. After recalling the preset channel to be cleared, pressing this key will clear the memorized contents.

(38) Preset function (1-10/11-20) key
Used to select 1-10 or 11-20 setting for the preset channel key. In either FM or AM mode, 20 stations can be preset as random as each setting ("1-10" or "11-20") can contain 10 preset stations. Indicator "1-10" lights when "1-10" setting is used, and indicator "11-20" lights when "11-20" setting is used.

(39) SEEK LEVEL select key (During FM reception only)
Used to select the stop level. When "L" is selected, the Auto Stop and Auto Memory functions are possible even for the weak-signal stations. When "H" is selected, the Auto Stop/Auto Memory functions are performed only for the stations having strong signal. Pressing this key alternates between "L" and "H".

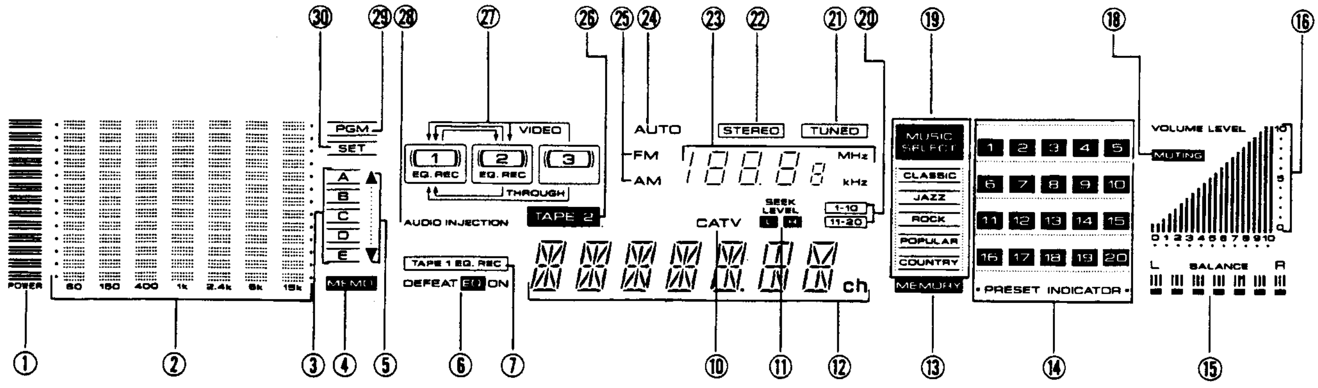
(40) AUTO MEMORY key
When this key is pressed ON, the station frequencies will be scanned and stored into the Preset Channels automatically. Scanning operation is performed from the displayed frequency to the higher range and finished after one cycle is over with the receiving band. During Auto Memory operation, the Memory indicator blinks. To release it, press the AUTO MEMORY key again.

(41) PRESET SCAN key
Use this key for preset channel scanning.
When a frequency stored in the preset memory is being received, pressing this key shifts the reception to the next frequency stored in the preset memory. (The preset channels are scanned in the order 1, 2,..... 11, 12,..... 20.)
When frequencies other than those stored in the preset memory received, pressing this key changes the reception to the frequency in preset channel 1.

- To stop a scanning operation, press the SCAN key again.
- In MUSIC SELECT mode, a preset scanning operation is performed within the music genre selected.

CONTROLS AND INDICATORS

㊷ Display window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⑯
PGM
SET
VIDEO
1
2
3
EQ. REC
EQ. REC
THROUGH
AUDIO INJECTION
TAPE 2
AUTO
FM
AM
STEREO
TUNED
MHz
kHz
SEEK LEVEL
CATV
1-10
11-20
MUSIC SELECT
CLASSIC
JAZZ
ROCK
POPULAR
COUNTRY
MEMORY
PRESET INDICATOR
VOLUME LEVEL
MUTING
0 1 2 3 4 5 6 7 8 9 10
L BALANCE R
POWER
60
150
400
1k
2.4k
6k
15k
A
B
C
D
E
MEMO
TAPE 1 EQ. REC
DEFEAT EQ ON
ch
①
②
③
④
⑤
⑥
⑦
⑩
⑪
⑫
⑬
⑭
⑮

① Display the power level display.

② In graphic equalizer mode, displays the equalizer level display, the music spectrum analyzer display and peak hold display.

③ Displays when storing or recalling equalizer preset channel in memory.

④ This indicator lights when the Memory (EQ) key is pressed to store the desired equalizer curve.

⑤ Equalizer Presence Indicator.

⑥ Lights when the EQUALIZER switch is set to "ON". Lights when the EQUALIZER switch is set to "DEFEAT".

⑦ This indicator lights when EQ REC (equalizer recording) is engaged for Tape 1.

⑩ Lights when the CATV switch is pressed.

⑪ This displays the "L" or "H" seek level in FM mode.

⑫ This displays the input mode, preset channel, station name, front volume level, rear level balance, surround mode, EQ preset channel and music genre.

⑬ Lights when the MEMORY key is pressed.
Blinks when the AUTO MEMORY key is pressed.

⑭ Displays preset music genre selected at music select mode, and all of the preset broadcast station channels which are in the Preset indicator at preset indicator mode.

⑮ Indicates the left and right volume balance.

⑯ Displays the volume level.

⑱ Flashes when the MUTING key is pressed.

⑲ When the Music Select key and MUSIC GENRE key are pressed, the "MUSIC SELECT" and one of the music genre indicators light.

⑳ "1-10"or "11-20" lights according to the selection of the preset function keys.

㉑ In tuner mode, lights when a station is tuned in.

㉒ In tuner mode, lights when a stereo broadcast is tuned in.

㉓ Displays the digital frequency display.

㉔ Lights during auto tuning.

㉕ Displays the tuner band "FM" or "AM".

㉖ Lights when the TAPE-2 key is pressed.

㉗ Display the VIDEO dubbing mode, VIDEO monitor out mode, EQ REC mode or through dubbing mode displays.

㉘ Lights when the AUDIO INJECTION is pressed.

㉙ Lights when the PGM/SET key is set to "PGM".

㉚ Lights when the PGM/SET key is set to "SET".

CIRCUIT DESCRIPTION

Description of components

TUNER UNIT (X05-3330-12)

Component	Use/Function	Operation/Condition/Compatibility
IC1	FM IF detector	
IC2	PLL (phase-locked loop)	
IC3	AM detector	
IC4	FM MPX	
Q1	IF amplifier	
Q2, 3	PLL, Low-pass filter	
Q4	5V constant voltage, for PLL	
Q5	FM + B select	Turns ON in FM mode.
Q6	AM + B select	Turns ON in AM mode.
Q7	$\overline{\text{FM + B}}$ select	Turns ON in $\overline{\text{FM}}$ mode.
Q8	TUNED indicator, for SD	Turns OFF when tuned.
Q9	Forced mono select	Turns OFF in forced mono mode.
Q10	TUNED indicator, for SD	Turns ON when tuned.
Q11	Forced mono select	Turns ON in forced mono mode.
Q12, 13	CATV relay drive	Turns ON in CATV mode.
Q14, 15	Seek level select	Q15 is ON and Q14 is OFF when low.
Q16	Buffer for L5	
Q17	+ B ripple filter	
Q20	Microcomputer (μ-COM) power supply, for fast OFF	

MAIN AMPLIFIER UNIT (X07-2350-12)

Component	Use/Function	Operation/Condition/Compatibility
IC1	Protection	Relay drive.
Q1~4	Primary stage voltage amplification	
Q5~8	Primary stage cascode amplifier	
Q9~12	Secondary stage voltage amplification	
Q13~16	Third stage voltage amplification	
Q17, 18	Third stage cascode amplifier	
Q19, 20	Third stage current mirror	
Q21~24	Power amplifier driver	
Q25, 26	Protection, current detection	Positive (+) side.
Q27, 28	Protection, current detection	Negative (–) side.
Q29	Protection	Transmits the current detected signal to IC1.

CIRCUIT DESCRIPTION

AUDIO UNIT (X09-2470-12)

Component	Use/Function	Operation/Condition/Compatibility
IC1	Phono equalizer	
IC2, 3	Input selector select	
IC4	GE, GE REC ON/OFF, surround mode select	
IC5	Buffer for REC	
IC6	VR array for GE (graphic equalizer)	
IC7, 8	Op amplifier for GE (graphic equalizer)	Semiconductor L (self-reactance) x 7.
IC10	Electronic volume	For front channel.
IC12	3-pin regulator	15V.
Q9, 10	Muting	Muting when changing the selector.
Q11		Q9 and Q10 are driven by open collector.
Q13, 14	L and R mixer for apectrum analyzer	Emitter follower.
Q17, 18	Muting	Muting for MAIN IN section.
Q19, 20	Drive circuit for muting	
Q25	Constant voltage for −33V	
Q27	For FL ON (go on) timing	Switch for −33V, high-β (beta) transistor.
Q28		
Q29	For FL OFF (go out) on power OFF	
Q30	For −14V constant voltage	Inverted-darlington connection with Q32.
Q31	−14V constant voltage	Error amplification.
Q32	−14V constant voltage	
Q33	5V constant voltage	5V power supply for display.
Q34	5V constant voltage	5V power supply for μ-COM (microcomputer).
Q37, 38	For main amplifier bias	
Q39~42	Main amplifier final stage	

DISPLAY UNIT (X14-2130-12)

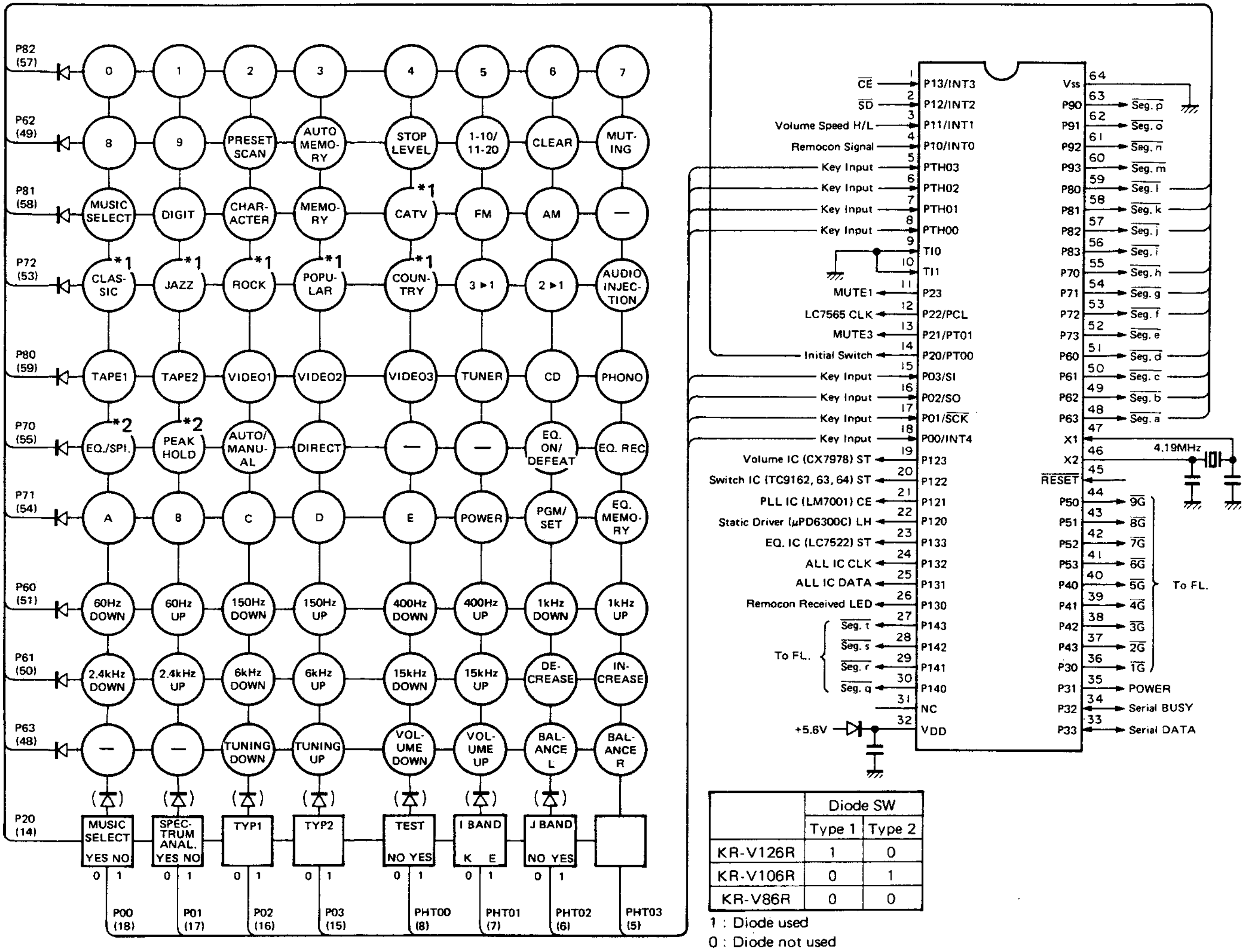
Component	Use/Function	Operation/Condition/Compatibility
IC1	Microcomputer	
IC2~5	Transistor array (for FL drive)	Active low.
IC6	Static driver (for FL drive)	
IC7	GE, SP display IC	
IC8, 9	Transistor array (for FL drive)	Active high.
IC10, 11	Logic IC	Data mute circuit.
IC12, 13	Analog switch IC	Video select.
IC14~17 (2/2)	Spectrum analyzer band-pass filter	
IC17 (1/2)	Spectrum analyzer band-pass filter	Input amplifier.
Q1~4	Digital transistor (for FL drive)	
Q7	For through-dubbing control	Turns OFF when a through-dubbing operation is activated in VIDEO 2 and VIDEO 3 mode.
Q8~10	Video output buffer	
Q11	Data mute circuit	
Q12, 13	Realy drive	
Q14	Microcomputer reset circuit	Turns ON for several milli-seconds, when power is turned ON.

CIRCUIT DESCRIPTION

Microprocessor : µPD75108CW-041 (X14-2130-12 : IC1)

Terminal connection

*1 : K,P,U & UE types only.
*2 : E type only.


P82 (57)
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2
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7
P62 (49)
8
9
PRESET SCAN
AUTO MEMO-RY
STOP LEVEL
1-10/ 11-20
CLEAR
MUT-ING
P81 (58)
MUSIC SELECT
DIGIT
CHAR-ACTER
MEMO-RY
*1
CATV
FM
AM
—
P72 (53)
*1
CLAS-SIC
*1
JAZZ
*1
ROCK
*1
POPU-LAR
*1
COUN-TRY
3►1
2►1
AUDIO INJEC-TION
P80 (59)
TAPE1
TAPE2
VIDEO1
VIDEO2
VIDEO3
TUNER
CD
PHONO
P70 (55)
*2
EQ./SPI.
*2
PEAK HOLD
AUTO/ MANU-AL
DIRECT
—
—
EQ. ON/ DEFEAT
EQ. REC
P71 (54)
A
B
C
D
E
POWER
PGM/ SET
EQ. MEMO-RY
P60 (51)
60Hz DOWN
60Hz UP
150Hz DOWN
150Hz UP
400Hz DOWN
400Hz UP
1kHz DOWN
1kHz UP
P61 (50)
2.4kHz DOWN
2.4kHz UP
6kHz DOWN
6kHz UP
15kHz DOWN
15kHz UP
DE-CREASE
IN-CREASE
P63 (48)
—
—
TUNING DOWN
TUNING UP
VOL-UME DOWN
VOL-UME UP
BAL-ANCE L
BAL-ANCE R
P20 (14)
MUSIC SELECT YES NO
SPEC-TRUM ANAL. YES NO
TYP1
TYP2
TEST NO YES
I BAND K E
J BAND NO YES
0 1
0 1
0 1
0 1
0 1
0 1
0 1
P00 (18)
P01 (17)
P02 (16)
P03 (15)
PHT00 (8)
PHT01 (7)
PHT02 (6)
PHT03 (5)
1 CE → P13/INT3
2 SD → P12/INT2
3 Volume Speed H/L → P11/INT1
4 Remocon Signal → P10/INT0
5 Key Input → PTH03
6 Key Input → PTH02
7 Key Input → PTH01
8 Key Input → PTH00
9 TI0
10 TI1
11 MUTE1 ← P23
12 LC7565 CLK ← P22/PCL
13 MUTE3 ← P21/PT01
14 Initial Switch ← P20/PT00
15 Key Input → P03/SI
16 Key Input → P02/SO
17 Key Input → P01/SCK
18 Key Input → P00/INT4
19 Volume IC (CX7978) ST ← P123
20 Switch IC (TC9162, 63, 64) ST ← P122
21 PLL IC (LM7001) CE ← P121
22 Static Driver (µPD6300C) LH ← P120
23 EQ. IC (LC7522) ST ← P133
24 ALL IC CLK ← P132
25 ALL IC DATA ← P131
26 Remocon Received LED ← P130
27 Seg. t ← P143
28 Seg. s ← P142
29 Seg. r ← P141
30 Seg. q ← P140
To FL.
31 NC
32 +5.6V VDD
64 Vss
63 P90 → Seg. p
62 P91 → Seg. o
61 P92 → Seg. n
60 P93 → Seg. m
59 P80 → Seg. l
58 P81 → Seg. k
57 P82 → Seg. j
56 P83 → Seg. i
55 P70 → Seg. h
54 P71 → Seg. g
53 P72 → Seg. f
52 P73 → Seg. e
51 P60 → Seg. d
50 P61 → Seg. c
49 P62 → Seg. b
48 P63 → Seg. a
47 X1
46 X2
4.19MHz
45 RESET
44 P50 → 9G
43 P51 → 8G
42 P52 → 7G
41 P53 → 6G
40 P40 → 5G
39 P41 → 4G
38 P42 → 3G
37 P43 → 2G
36 P30 → 1G
To FL.
35 P31 → POWER
34 P32 ↔ Serial BUSY
33 P33 ↔ Serial DATA

	Diode SW	
	Type 1	Type 2
KR-V126R	1	0
KR-V106R	0	1
KR-V86R	0	0

1 : Diode used
0 : Diode not used

- **Volume IC CX7978**

CLK (9), DATA (10), ST (11)

	CS1 (4)	CS2 (5)	M/S (6)
FRONT	Vss	Vss	OPEN or V_{DL}
REAR	OPEN or V_{DL}	OPEN or V_{DL}	OPEN or V_{DL}

The ST signal to the IC is input by differentiating the signal from the microcomputer.

- **PLL IC LM7001**

CLK (2), DATA (4), ST (3)

	AO	BO
FM	1	0
AM	0	1
Except TUNER	0	0

- **Switch IC** CLK (15), DATA (16), ST (13)

	S1	S2	S3	S4	S5	S6	S7	S8
TC9162N	$\overline{\text{EQ REC}}$	EQ REC	$\overline{\text{EQ ON}}$	EQ ON	DOLBY	THEATER	STADIUM	–
TC9163N	VIDEO 2 2→1 (V1 REC)	VIDEO 3 3→1 (V1 REC)	AUDIO INJECTION 1 (V1 REC)	VIDEO 1	VIDEO 2	VIDEO 3	VIDEO 1 (V2 REC)	VIDEO 3 (V2 REC)
TC9164N	TAPE 1	CD/AUX	PHONO	TUNER	$\overline{\text{TAPE 2 PLAY}}$	TAPE 2 PLAY	AUDIO INJECTION 2 (V2 REC)	$\overline{\text{TAPE 1}}$

The ST signal to the IC is input differentiating the signal from the microcomputer.

- **Static Driver IC µPD6300C** CLK (12), DATA (11), LH (10)

Output	O0 (15)	O1 (16)	O2 (17)	O3 (18)	O4 (19)	O5 (20)	O6 (21)	O7 (22)	O8 (23)	O9 (24)
Dispaly	8	—	FM	AM	AUTO	CATV	SEEK LEVEL	(2)	1 EQ REC	↑__|
Terminal	PD7	PD3	PD6	PD5	PD4	PD2	PD1	PC11	PC9	PC6
Output	O10 (25)	O11 (26)	O12 (27)	O13 (1)	O14 (2)	O15 (3)	O16 (4)	O17 (5)	O18 (6)	O19 (7)
Dispaly	AUDIO INJECTION	TAPE 1 EQ REC	⋮ ▼	▲ ⋮	EQ ON	SURROUND	TAPE 2	└┘	(3)	(1)
Terminal	PC4	PC2	PB2	PB1	PC1	PC3	PC5	PC7	PC10	PC12

- **Equalizer IC LC7522** S (13) : VEE, CLK (17), DATA (16)
- **EQ./SPI dispaly IC LC7565** S1 (15), S2 (16) : VDD, CLK (18), DATA (17)

CIRCUIT DESCRIPTION

Terminal functions

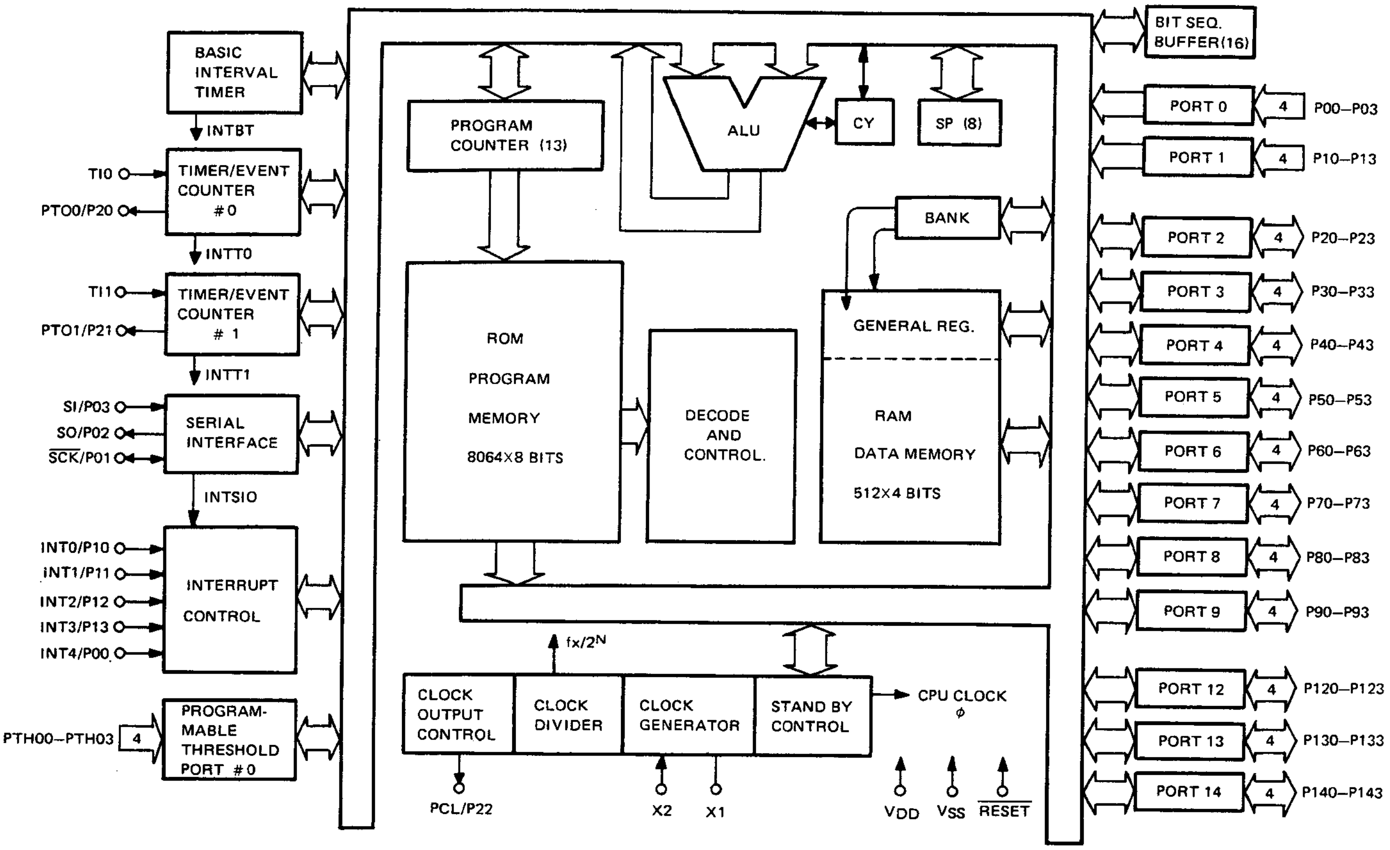
Pin No.	Pin name	I/O	Name	Description
1	P13/INT3	I	$\overline{\mathrm{CE}}$	Backup detection pin. When this goes low level, backup mode is set and the clock stops.
2	P12/INT2	I	$\overline{\mathrm{SD}}$	Station presence/absence detection signal input pin: Used in Auto Tuning, Auto Memory, and Preset Scan. High : station is not present, Low : Station is present.
3	P11/INT1	I	Volume Speed	Volume data output inhibition time setting port : Used when electronic volume CX7978 malfunctions at low temperature. High : 400ms, Low : 96ms. * This is used when low in the KR-V126R.
4	P10/INT0	I	Remocon Signal	Remote control signal input pin after detection : Inputs the remote control signal level in normal mode and when reading out the leader code. Detects the signal by interruption the rising edge when reading the data.
5~8	PTH03~ PTH00	I	Key Input	Key matrix return signal input pin : Normally high. (Threshold voltage = V_{DD} x 7.5/16, Conversion time : 32.3μs).
9 10	TI0 TI1	I	Not used	No-connection input pin. Fixed at V_{DD} or Vss.
11	P23	O (CMOS)	MUTE1	Muting signal output pin : Used when the Input Selector is changed, during tuning scan, etc. Normally low, Active high.
12	P22/PCL	O (CMOS)	LC7565 CLK	Output pin to be connected to the CLK pin of LC7565. Normally low.
13	P21/PTO1	O (CMOS)	MUTE3	• With the volume level of the front channel set to between 0 and –28dB, outputs the muting signal for a short period (about 10msec.) when the TAPE2 ON/OFF, EQ ON/OFF, EQ REC ON/OFF, surround ON/OFF or surround mode selector is switched. • When the volume level of the front channel is set to – ∞ dB, outputs the muting signal.
14	P20/PTO0	O (CMOS)	Initial SW	Strobe signal for taking in the initial switch. Momentarily low immediately after reset, otherwise always high.
15~18	P03/SI~ P00/INT4	I	Key Input	Key matrix returns signal input pin : Normally high.
19	P123	O (N ch open drain)	Volume IC (CX7978)ST	• ST signal output pin for the electronic volume IC (CX7978) . • Normally high, and low when data is output. • The microprocessor signal is input to the ST pin of CX7978 after differentiating.
20	P122	O (N ch open drain)	Switch IC (TC9162N, 9163N, 9164N)ST	• ST signal output pin for the switch ICs (TC9162N, TC9163N. amd TC9164N). • Normally high, and low when data is output. • The microprocessor signal is input to the ST pin after differentiating.
21	P121	O (N ch open drain)	PLL IC (LM7001)CE	• CE signal output pin for the PLL IC (LM7001) . • Normally low, and high when data is output.
22	P120	O (N ch open drain)	Static Driver (μPD6300C)LH	• LH signal output pin for the Static Driver IC (μPD6300C) . • Normally low, and high when data is output.
23	P133	O (N ch open drain)	EQ IC (LC7522)ST	• The signal pin used to mute the CLK and DATA signals to the other ICs, so that the signal is not input to the CLK and DATA pins of LC7522. • Normally high, and low when data is output.
24	P132	O (N ch open drain)	CLK	• CLK signal output pin for CX7978, TC9162N, TC9163N, TC9164N, LM7001, AND LC7522.
25	P131	O (N ch open drain)	DATA	• DATA signal output pin for CX7978, TC9162N, TC9163N, TC9164N, LM7001, LC7522, and LC7565.
26	P130	O (N ch open drain)	Remocon Received LED	Directly drives the remote control STANDBY/RECEIVED LED. It blinks while the remote control signal is being received, and is lit otherwise.

CIRCUIT DESCRIPTION

Pin No.	Pin name	I/O	Name	Description
27	P143	O (N ch open drain)	$\overline{\text{Seg t}}$	● FL segment control pin. ● Negative logic. ● Drives the FL display through an inversion buffer.
28	P142		$\overline{\text{Seg s}}$	
29	P141		$\overline{\text{Seg r}}$	
30	P140		$\overline{\text{Seg q}}$	
31	NC			
32	VDD			Power supply pin.
33	P33	I/O (CMOS)	Serial DATA	● DATA pin for system serial communication . ● Normally in input mode, and in output mode only when serial data is output.
34	P32	I/O (CMOS)	Serial BUSY	● BUSY pin for system serial communication . ● Normally in input mode. Outputs a high level signal when serial data is output. Also provides the serial bus control function.
35	P31	O (CMOS)	POWER	Output pin for the power relay control : Active high. This is controlled by the POWER key. It alternates between high (Power ON) and low (Power OFF) each time the POWER key is pressed.
36	P30	O (CMOS)	$\overline{\text{1G}}$	● FL digit control pin. ● Negative logic. ● Drives the FL display through an inversion buffer.
37	P43		$\overline{\text{2G}}$	
38	P42		$\overline{\text{3G}}$	
39	P41		$\overline{\text{4G}}$	
40	P40		$\overline{\text{5G}}$	
41	P53		$\overline{\text{6G}}$	
42	P52		$\overline{\text{7G}}$	
43	P51		$\overline{\text{8G}}$	
44	P50		$\overline{\text{9G}}$	
45	$\overline{\text{RESET}}$	I		Input pin for the reset signal from the microcomputer .
46	X2			● System clock oscillator pin (4.194MHz) .
47	X1			
48	P63	O (CMOS)	$\overline{\text{Seg a}}$, Key	● FL segment control pin . ● Negative logic. ● Drives the FL display through an inversion buffer. ● Key intake strobe signal output pin.
49	P62		$\overline{\text{Seg b}}$, Key	
50	P61		$\overline{\text{Seg c}}$, Key	
51	P60		$\overline{\text{Seg d}}$, Key	
52	P73		$\overline{\text{Seg e}}$	
53	P72		$\overline{\text{Seg f}}$, Key	
54	P71		$\overline{\text{Seg g}}$, Key	
55	P70		$\overline{\text{Seg k}}$, Key	
56	P83		$\overline{\text{Seg i}}$	
57	P82		$\overline{\text{Seg j}}$, Key	
58	P81		$\overline{\text{Seg k}}$, Key	
59	P80		$\overline{\text{Seg l}}$, Key	
60	P93		$\overline{\text{Seg m}}$	
61	P92		$\overline{\text{Seg n}}$	
62	P91		$\overline{\text{Seg o}}$	
63	P90		$\overline{\text{Seg p}}$	
64	Vss			GND pin.

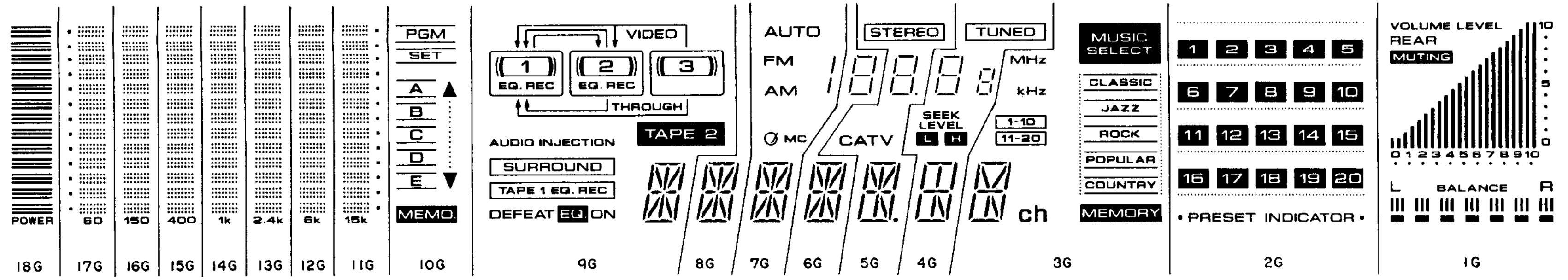
CIRCUIT DESCRIPTION

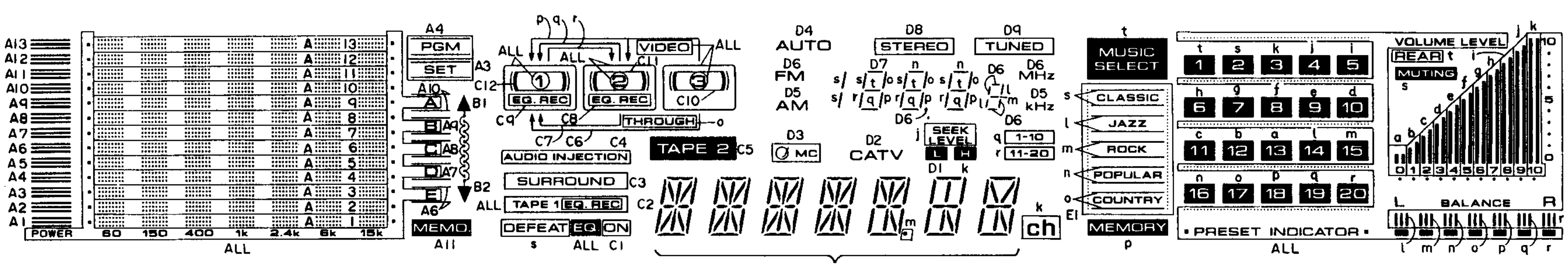
Block diagram

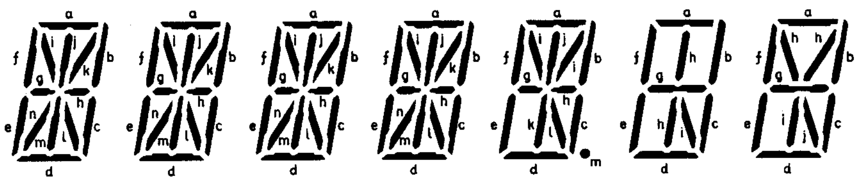

BASIC INTERVAL TIMER
INTBT
TI0
PTO0/P20
TIMER/EVENT COUNTER #0
INTT0
TI1
PTO1/P21
TIMER/EVENT COUNTER # 1
INTT1
SI/P03
SO/P02
SCK/P01
SERIAL INTERFACE
INTSIO
INT0/P10
INT1/P11
INT2/P12
INT3/P13
INT4/P00
INTERRUPT CONTROL
PTH00–PTH03
4
PROGRAM-MABLE THRESHOLD PORT #0
PROGRAM COUNTER (13)
ALU
CY
SP (8)
BANK
ROM PROGRAM MEMORY 8064×8 BITS
DECODE AND CONTROL.
GENERAL REG.
RAM DATA MEMORY 512×4 BITS
fx/2^N
CLOCK OUTPUT CONTROL
CLOCK DIVIDER
CLOCK GENERATOR
STAND BY CONTROL
CPU CLOCK ϕ
PCL/P22
X2
X1
VDD
VSS
RESET
BIT SEQ. BUFFER(16)
PORT 0
P00–P03
PORT 1
P10–P13
PORT 2
P20–P23
PORT 3
P30–P33
PORT 4
P40–P43
PORT 5
P50–P53
PORT 6
P60–P63
PORT 7
P70–P73
PORT 8
P80–P83
PORT 9
P90–P93
PORT 12
P120–P123
PORT 13
P130–P133
PORT 14
P140–P143
4

CIRCUIT DESCRIPTION

Indicator tube : FIP20AMW30 (X14-2130-12 : FL1)


POWER
60
150
400
1k
2.4k
6k
15k
PGM
SET
A
B
C
D
E
MEMO
VIDEO
EQ. REC
THROUGH
AUDIO INJECTION
SURROUND
TAPE 1 EQ. REC
DEFEAT EQ ON
TAPE 2
AUTO
FM
AM
MC
CATV
STEREO
TUNED
MHz
kHz
SEEK LEVEL L H
1-10
11-20
ch
MUSIC SELECT
CLASSIC
JAZZ
ROCK
POPULAR
COUNTRY
MEMORY
• PRESET INDICATOR •
VOLUME LEVEL
REAR
MUTING
0 1 2 3 4 5 6 7 8 9 10
L BALANCE R
18G
17G
16G
15G
14G
13G
12G
11G
10G
9G
8G
7G
6G
5G
4G
3G
2G
1G


A13
A12
A11
A10
A9
A8
A7
A6
A5
A4
A3
A2
A1
ALL
A4
A3
B1
B2
A6
A10
C12
C9
C8
C7
C6
C4
C11
C10
C5
C3
C2
ALL C1
D4
D6
D5
D3
D8
D7
D2
D1
D9
E1
p
s
t


a
b
c
d
e
f
g
h
i
j
k
l
m
n

Terminal No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Electrode	F	F	F	P(A1)	P(A2)	18G	P(A3)	P(A5)	17G	P(A6)	P(A7)	16G	P(A8)	P(A9)	15G	P(A10)	14G	P(A11)	P(A12)	13G
Terminal No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Electrode	P(A13)	12G	P(ALL)	P(A4)	11G	P(B1)	P(B2)	P(C1)	10G	P(s)	P(C2)	IC	9G	P(C3)	P(C4)	P(C5)	P(C6)	P(C7)	P(C8)	9G
Terminal No.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Electrode	P(C9)	P(C10)	P(C11)	P(C12)	P(D1)	9G	P(D2)	8G	P(D4)	P(D5)	7G	P(D6)	P(D3)	6G	5G	P(D7)	P(D8)	P(t)	5G	P(D9)
Terminal No.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Electrode	4G	P(m)	P(l)	P(r)	4G	P(q)	P(p)	3G	P(o)	P(n)	P(m)	3G	2G	P(l)	P(E1)	P(t)	P(k)	P(j)	2G	P(i)
Terminal No.	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	
Electrode	P(k)	P(h)	P(g)	2G	P(f)	1G	P(g)	P(n)	P(l)	P(m)	P(e)	P(d)	P(c)	1G	P(b)	p(a)	F	F	F	

Notes F : Filament P : Anode
G : Grid IC : Internally Connected Pin

Since the segments "t", "m", "l", "n", "g", and "k" are not connected inside the FL display, they must be connected externally (on the PC Board).

CIRCUIT DESCRIPTION

Test mode

(1) Setup and release of test mode

Setup : Apply test mode diode and reset the microprocessor. In actual sets, short-circuit the test mode set pins.

Release : Without the test mode diode, reset the microprocessor. In actual sets, open the test mode set pins.

(2) Contents of test mode

- **Volume Up/Down operation**
  The operation attenuation level can be set at 3 points; 0dB, −28dB, and −∞dB.
- **Balance operation**
  Operation mode can be set at 3 points; L, center, and R.
- **EQ (Equalizer) Up/Down operation**
  The operation level can be set at 3 points; + 12dB, 0dB, and −12dB for each frequency band.

- **Setting of the tuner adjustment frequency**

Preset channel	Contents		Preset channel	Contents	
	K type	E type		K type	E type
1	FM 87.5MHz	FM 87.5MHz	11	AM 530kHz	AM 531kHz
2	FM 89.1MHz	FM 89.1MHz	12	AM 630kHz	AM 630kHz
3	FM 90.0MHz	FM 90.0MHz	13	AM 990kHz	AM 990kHz
4	FM 92.0MHz	FM 92.0MHz	14	AM 1440kHz	AM 1440kHz
5	FM 94.0MHz	FM 94.0MHz	15	AM 1610kHz	AM 1602kHz
6	FM 98.0MHz	FM 98.0MHz	16	–	–
7	FM 100.1MHz	FM 100.1MHz	17	–	–
8	FM 102.0MHz	FM 102.0MHz	18	–	–
9	FM 106.0MHz	FM 106.0MHz	19	–	–
10	FM 108.0MHz	FM 108.0MHz	20	–	–

Initialization

(1) Amplifier section

- AUDIO SELECTOR : TUNER
- TAPE 2 : OFF
- VIDEO SELECTOR : VIDEO 1
- Volume : −56dB
- Balance : center position
- AUDIO INJECTION : OFF
- Through dubbing : OFF

(2) Graphic Equalizer (EQ) section

- EQ memory mode : PGM
- EQ memory channel : Last memory setting (not preset channel)
- EQ status : ±0dB, FLAT
- Contents of EQ program memory : ±0dB, FLAT for all channels
- When SET mode is activated, "A" is recalled.
- INC/DEC : None
- EQ : OFF
- EQ REC : OFF

(3) Tuner section

- Receiving frequency : FM lower limit
- AUTO mode
- SEEK LEVEL : High
- CATV : OFF
- Preset function : 1 to 10
- MUSIC SELECT : OFF
- Preset memory : All clear

Selector tuner

	Amplifier section								Tuner section								
Key operation Status	**POWER**	**Each selector**	**AUDIO INJECTION**	**2→1**	**3→1**	**VOL UP/DOWN**	**BALANCE L/R**	**MUTING**	**Frequency UP/DOWN**	**10 KEY**	**DIRECT**	**BAND FM**	**BAND AM**	**AUTO**	**P. SCAN**	**AUTO MEMORY**	**SEEK LEVEL**
Immediately after POWER ON SELECTOR : TUNER VIDEO 1 BAND : FM	POWER : OFF	Changes each SELECTOR	AUDIO INJECTION : ON	Dubbing 2→1 mode is activated AUDIO INJECTION : OFF	Dubbing 3→1 mode is activated AUDIO INJECTION : OFF	Front volume UP/DOWN	Balance L/R	−20dB MUTING	Frequency UP/DOWN 1) MUSIC SELECTOR : OFF 2) Preset : Last area "TUNER––2"	Recalls preset corresponding to the numeric keypad	Enables direct tuning	Changes the band to FM	Changes the band to AM	AUTO/ MANUAL	Preset Scan Start/Stop	Auto Memory Start/Stop 1) Sets Auto mode 2) MUSIC SELECTOR : OFF	HIGH/LOW (in FM mode)
During frequency UP/DOWN (AUTO mode)	↑	↑	↑	↑	↑	↑	↑	↑	↑ (UP – DOWN)	↑	—	↑	↑	↑ (Stop in MANUAL)	↑ (Scanning starts from the lower channel)	—	↑
During direct frequency input	↑	↑	↑	↑	↑	↑	↑	↑	↑	(Input with numeric keypad)	Ends direct input (Displays SEL.)	↑	↑	↑	↑	—	↑
During preset scan	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑ (Recall)	—	↑	↑	↑	↑ (STOP)	—	↑
During auto memory	↑	↑	↑	↑	↑	↑	↑	↑	—	↑	—	↑	↑	—	—	↑ (STOP)	↑
While accepting character input	↑	↑	↑	↑	↑	↑	↑	↑	(Character select)	↑	—	↑	↑	↑	↑	—	↑
While displaying a direct frequency input error	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
During memory write enable mode	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑ (Write)	↑	↑	↑	↑	↑	↑	↑
While displaying volume attenuation level	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
*2 **While dispalying EQ. (graphic equalizer) preset**	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
When a source other than "TUNER" is selected	↑	↑	↑	↑	↑	↑	↑	↑	—	↑	—	↑	↑	—	—	—	—

CIRCUIT DESCRIPTION

*1 : K,P,U & UE types only.
*2 : E type only.

E		Tuner section																
	MUTING	**Frequency UP/DOWN**	**10 KEY**	**DIRECT**	**BAND FM**	**BAND AM**	**AUTO**	**P. SCAN**	**AUTO MEMORY**	**SEEK LEVEL**	**CHARACTER**	**DIGIT**	**GENRE KEY (5)**	**MUSIC SELECT** *1	**MEMORY**	**CLEAR**	**CATV ON/OFF** *1	**+ 10**
	−20dB MUTING	Frequency UP/DOWN 1) MUSIC SELECTOR : OFF 2) Preset : Last area "TUNER—2"	Recalls preset corresponding to the numeric keypad	Enables direct tuning	Changes the band to FM	Changes the band to AM	AUTO/ MANUAL	Preset Scan Start/Stop	Auto Memory Start/Stop 1) Sets Auto mode 2) MUSIC SELECTOR : OFF	HIGH/LOW (in FM mode)	Enables character input 1) Preset : Last area	Advances the column for inputting a character	1) Music Select : OFF, Changes the genre Preset : Last area 2) Music Select : ON, Recalls the genre	Mode select ON/OFF	Enables memory write	Clears the preset information in the memory area 1) Preset : Last area "TUNER —2"	Antenna select CATV/OFF (Activated in FM mode) 1) Preset : Last area 2) Muting is engaged	Preset area select : 1-10/11-20
	↑	↑ (UP – DOWN)	↑	—	↑	↑	↑ (Stop in MANUAL)	↑ (Scanning starts from the lower channel)	—	↑	—	—	—	—	—	—	—	↑
	↑	↑	(Input with numeric keypad)	Ends direct input (Displays SEL.)	↑	↑	↑	↑	—	↑	—	—	—	—	—	—	—	↑
	↑	↑	↑ (Recall)	—	↑	↑	↑	↑ (STOP)	—	↑	—	—	—	—	—	—	—	↑
	↑	—	↑	—	↑	↑	—	—	↑ (STOP)	↑	—	—	—	—	—	—	—	↑
	↑	(Character select)	↑	—	↑	↑	↑	↑	—	↑	(Releases the mode)	↑	—	—	—	—	—	↑
	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	—	↑	↑	—	—	↑	↑
	↑	↑	↑ (Write)	↑	↑	↑	↑	↑	↑	↑	↑	—	—	—	↑	—	—	↑
	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	—	↑	↑	↑	—	↑	↑
	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	—	↑	↑	↑	—	↑	↑
	↑	—	↑	—	↑	↑	—	—	—	—	—	—	—	—	—	—	—	↑

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	RECEIVER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION		INPUT SELECTOR: FM	MODE: STEREO				
1	DISCRIMINATOR (1)	(A) 98.0MHz 1kHz,±75kHz dev 60dBμ(ANT input)	Connect a DC voltmeter between TP4 and 5.	MONO 98.0MHz	L2 (X05-)	0V	(a)
2	DISCRIMINATOR (2)	(A) 98.0MHz 1kHz,±75kHz dev 60dBμ(ANT input)	(B)	MONO 98.0MHz	L3 (X05-)	Minimum distortion.	
Repeat alignments 1 and 2 several times.							
3	DISTORTION (STEREO)	(C) 98.0MHz 1kHz,±68.25kHz dev Selector:L or R Pilot: ±6.75kHz dev 60dBμ(ANT input)	(B)	98.0MHz	IFT (Front end)	Minimum distortion.	
4	SEPARATION	(C) 98.0MHz 1kHz,±68.25kHz dev Selector:L or R Pilot: ±6.75kHz dev 60dBμ(ANT input)	(B)	98.0MHz	VR2 (X05-)	Minimum crosstalk. A compromise adjustment may be required if left-to-right and right-to-left separations are unequal.	
5	TUNING LEVEL	(A) 98.0MHz 0 dev 13dBμ(ANT input)	–	AUTO or MONO 98.0MHz	VR1 (X05-)	Adjust VR1 and stop at the point where FL1(TUNED) goes on.	
AM SECTION		Keep the loop antenna installed.		INPUT SELECTOR:AM			
(1)	BAND EDGE (1)	–	Connect a DC voltmeter to TP3.	530kHz (531kHz)	L9 (X05-)	1.5V	(b)
(2)	BAND EDGE (2)	–	Connect a DC voltmeter to TP3.	1610kHz (1602kHz)	TC2 (X05-)	8.0V	(b)
Repeat alignments (1) and (2) several times.							
(3)	RF ALIGNMENT (1)	(D) 600(603)kHz 400Hz,30% mod	(B)	600kHz (603kHz)	L8 (X05-)	Maximum amplitude and symmetry of the oscilloscope display.	
(4)	RF ALIGNMENT (2)	(D) 1400(1404)kHz 400Hz,30% mod	(B)	1400kHz (1404kHz)	TC1 (X05-)	Maximum amplitude and symmetry of the oscilloscope display.	
Repeat alignments (3) and (4) several times.							
(5)	IF TRANSFORMER	(D) 1000(999)kHz 400Hz,30% mod	(B)	1000kHz (999kHz)	L10 (X05-)	Maximum amplitude and symmetry of the oscilloscope display.	
AUDIO SECTION							
[1]	IDLE CURRENT	–	(E) Connect a DC voltmeter across CP1(L) CP2(R)	Main volume: 0	VR1(L) VR2(R) (X07-)	10mV	(c)
[2]	SPECTRUM ANALYZER SENSITIVITY ADJUSTMENT	(F) Connect an AG(12mV,1kHz) to CD/AUX jack(L & R).	–	–	VR1 (X14-)	To the position so that the lowest level of the spectrum analyzer lights.	

REGLAGE

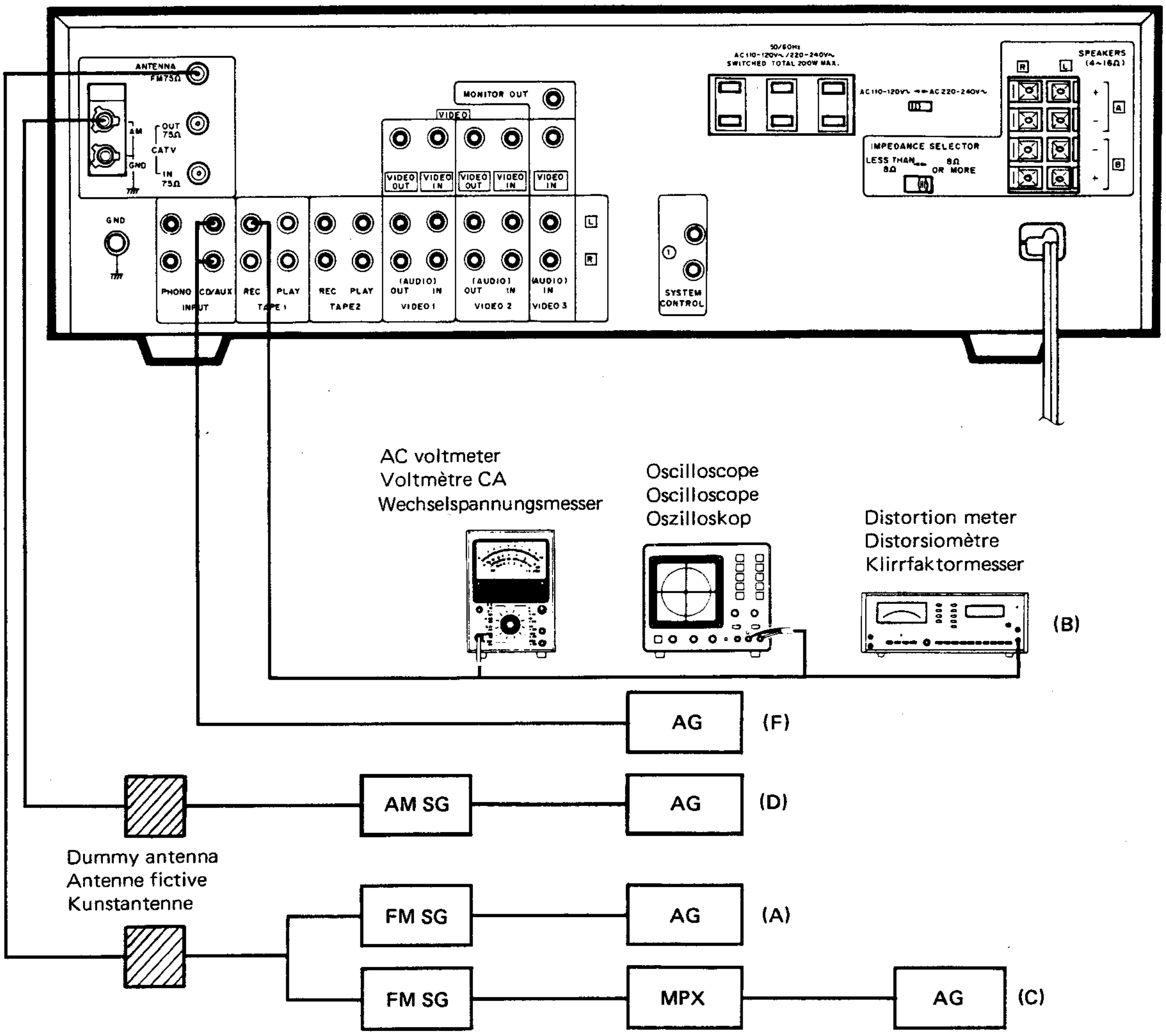
N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU AMPLI-TUNER	POINT DE L'ALIGNEMENT	ALIGNER POUR	FIG.
SECTION MF	Sauf en cas d'indications spéciales, régler chaque commutateur comme suit: SELECTEUR DES ENTRESS: MF MODE: STEREO						
1	DISCRIMINATEUR (1)	(A) 98,0MHz 1kHz.±75kHz dév 60dBμ(Entrée ANT)	Relier un voltmètre CC entre les TP4 et TP5.	MONO 98,0MHz	L2 (X05-)	0V	(a)
2	DISCRIMINATEUR (2)	(A) 98,0MHz 1kHz.±75kHz dév 60dBμ(Entrée ANT)	(B)	MONO 98,0MHz	L3 (X05-)	Distorsion minimale.	
Répéter les points 1 et 2 plusieurs fois.							
3	DISTORSION (STEREO)	(C) 98,0MHz 1kHz.±68,25kHz dév Selection:L ou R Signal pilote: ±6,75kHz dév 60dBμ(Entrée ANT)	(B)	98,0MHz	Tête H.F. IFT (X05-)	Distorsion minimale.	
4	SEPARATION	(C) 98,0MHz 1kHz,±68,25kHz dév Selection:L ou R Signal pilote: ±6,75kHz dév 60dBμ(Entrée ANT)	(B)	98,0MHz	VR2 (X05-)	Diaphonie minimale. Un compromis de réglage peut être nécessaire si les séparation de gauche à droite et droite à gauche sont inéglage.	
5	NINEAU D'ACCORDER	(A) 98,0MHz 0 dév 13dBμ(Entrée ANT)	–	AUTO ou MONO 98,0MHz	VR1 (X05-)	Ajuster VR1 et arrêter le mouvement de VR1 au moment où le FL1(TUNED)s'allume.	
SECTION MA	Laisser l'antenne bouche MA installée. SELECTEUR: AM						
(1)	BORD DE BANDE (1)	–	Relier un voltmètre CC au TP3.	530kHz (531kHz)	L9 (X05-)	1,5V	(b)
(2)	BORD DE BANDE (2)	–	Relier un voltmètre CC au TP3.	1610kHz (1602kHz)	TC2 (X05-)	8,0V	(b)
Répéter les points (1) et (2) plusieurs fois.							
(3)	ALIGNEMENT H.T. (1)	(D) 600(603)kHz 400Hz.30% mod	(B)	600kHz (603kHz)	L8 (X05-)	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
(4)	ALIGNEMENT H.T. (2)	(D) 1400(1404)kHz 400Hz.30% mod	(B)	1400kHz (1404kHz)	TC1 (X05-)	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
Répéter les points (3) et (4) plusieurs fois.							
(5)	TRANSFORMATEUR F.I.	(D) 1000(999)kHz 400Hz.30% mod	(B)	1000kHz (999kHz)	L10 (X05-)	Amplitude et symétrie maximale de l'affichage de l'oscilloscope.	
SECTION AUDIO							
[1]	COURANA DE POLARISATION	–	(E) Connecter un voltmètre CC CP1(CP2)	Volume principal: 0	VR1 (G) VR2 (D) (X07-)	10mV	(c)
[2]	AJUSTMENT DE LA SENSIBILITE DE L'ANALYSEUR DE SPECTRE	(F) Relier un AG (12mV, 1kHz) au CD/AUX prise (L et R).	–	–	VR1 (X14-)	Sur la position où le niveau le plus bas de l'analyseur de spectre s'allume.	

ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	RECEIVER-EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
UKW-EMPFANGSABTEILUNG Außer wenn anders angegeben, die verschiedenen Schalter wie folgt einstellen: EINGANGSUMSCHALTER: FM MODE: STEREO							
1	DISKRIMINATOR (1)	(A) 98.0MHz 1kHz.±75kHz Hub 60dBμ(ANT-Eingang)	Einen Gleichspannungsmesser zwischen TP4 und TP5 anschließen.	MONO 98.0MHz	L2 (X05-)	0V	(a)
2	DISKRIMINATOR (2)	(A) 98.0MHz 1kHz.±75kHz Hub 60dBμ(ANT-Eingang)	(B)	MONO 98.0MHz	L3 (X05-)	Minimal Klirrfaktor.	
Abstimmungen 1 und 2 mehrere Male wiederholen.							
3	KLIRRFAKTOR (STEREO)	(C) 98.0MHz 1kHz.±68.25kHz Hub Wähler:L oder R Pilotten: ±6.75kHz Hub 60dBμ(ANT-Eingang)	(B)	98.0MHz	Frontende IFT (X05-)	Minimal Klirrfaktor.	
4	STEREO KANAL TRENNUNG	(C) 98.0MHz 1kHz.±68.25kHz Hub Wähler:L oder R Pilotten: ±6.75kHz Hub 60dBμ(ANT-Eingang)	(B)	98.0MHz	VR2 (X05-)	Minimales übersprechen. Eine Ausgleich-regelung kann notwendig sein, falls links-zu-rechts und rechts-zu-links. Trennungen ungleich sind.	
5	ABSTIMM PEGEL	(A) 98.0MHz 0 Hub 13dBμ(ANT-Eingang)	–	AUTO oder MONO 98.0MHz	VR1 (X05-)	Den Pegel wiederstand aufdrehen, und dem VR1 Halt geben wobei den FL1(TUNED) anzeiger leuchtet wird.	
MW-EMPFANGSABTEILUNG Die MW-Rahmenantenne angebracht lassen. WÄHLER: AM							
(1)	BANDKANTE (1)	–	Einen Gleichspannungsmesser zu TP3 anschließen.	530kHz (531kHz)	L9 (X05-)	1.5V	(b)
(2)	BANDKANTE (2)	–	Einen Gleichspannungsmesser zu TP3 anschließen.	1610kHz (1602kHz)	TC2 (X05-)	8.0V	(b)
Abstimmungen (1) und (2) mehrere Male wiederholen.							
(3)	HF-ABGLEICH (1)	(D) 600(603)kHz 400Hz.30% mod	(B)	600kHz (603kHz)	L8 (X05-)	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
(4)	HF-ABGLEICH (2)	(D) 1400(1404)kHz 400Hz.30% mod	(B)	1400kHz (1404kHz)	TC1 (X05-)	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
Abstimmungen (3) und (4) mehrere Male wiederholen.							
(5)	ZF-ÜBERTRAGER	(D) 1000(999)kHz 400Hz.30% mod	(B)	1000kHz (999)kHz	L10 (X05-)	Maximal Amplitude und Symmetrie des Oszilloskopbildes.	
AUDIO-ABTEILUNG							
[1]	LEERLAUFSTROM	–	(E) Einen Gleichspannungsmesser über CP1(CP2)	Hauptlautstärke: 0	VR1 (L) VR2 (R) (X07-)	10mV	(c)
[2]	EINSTELLUNG DER SPEKTRUMANALYSATOR-EMPFINDLICHKEIT	(F) Einen AG(12mV.1kHz) zu CD/AUX Buchse anschließen (L und R).	–	–	VR1 (X14-)	Auf die Position, so daß der niedrigste Pegel des Spektrumanalysators leuchtet.	

ADJUSTMENT/REGLAGE/ABGLEICH

System connections/Raccordements du systeme/System-Anschlusse


ANTENNA
FM75Ω
AM
GND
OUT 75Ω
CATV
IN 75Ω
MONITOR OUT
VIDEO
VIDEO OUT
VIDEO IN
VIDEO OUT
VIDEO IN
VIDEO IN
GND
PHONO
CD/AUX
INPUT
REC
PLAY
TAPE 1
REC
PLAY
TAPE2
(AUDIO) OUT IN
VIDEO 1
(AUDIO) OUT IN
VIDEO 2
(AUDIO) IN
VIDEO 3
L
R
①
SYSTEM CONTROL
50/60Hz
AC 110-120V~/220-240V~
SWITCHED TOTAL 200W MAX.
AC 110-120V~ ⇐⇒ AC 220-240V~
IMPEDANCE SELECTOR
LESS THAN 8Ω
8Ω OR MORE
SPEAKERS (4~16Ω)
R
L
+
-
A
-
+
B
AC voltmeter
Voltmètre CA
Wechselspannungsmesser
Oscilloscope
Oscilloscope
Oszilloskop
Distortion meter
Distorsiomètre
Klirrfaktormesser
(B)
AG
(F)
AM SG
AG
(D)
Dummy antenna
Antenne fictive
Kunstantenne
FM SG
AG
(A)
FM SG
MPX
AG
(C)

VLOTAGE CHECK TABLE

X05-333X-XX

IC1

1~3	3.0V	12	4.6V
4, 5	0V	13	1.3V
6	6.1V	14	0V
7~10	6.2V	15	0.42V
11	13.4V	16	0.47V

IC2

1	1.0V	11	2.7V
2	1.5V	12,13	5.0V
6, 7	0V	14	0V
8	14.0V	15	1.1V
9	0.12V	16	0V
10	0V		

IC3

1	0.1V	11	0.7V
2	0.5V	12	0V
3	0.9V	13	2.0V
4	0V	14	12.4V
5	1.4V	15	1.6V
6	1.1V	16	0V
7, 8	1.4V	17	3.8V
9	2.7V	18, 19	1.3V
10	10.2V	20	0V

IC4

1~4	3.2V	14	4.9V
5	3.1V	15	0V
6, 7	3.2V	16	1.5V
8	3.1V	17	2.8V
9	3.2V	18	2.6V
10	0V	19, 20	2.7V
11	0.4V	21	3.4V
12	0V	22	13.5V
13	4.7V		

	B	C	E
Q4	6.0V	14.1V	5.4V
Q5	0.12V	13.9V	1.4V
Q6	14.0V	1.4V	14.1V
Q7	13.9V	0V	–
Q8	4.6V	–	–
Q9	3.0V	–	–
Q10	0V	4.7V	–
Q13	–	CATV : 12V OTHER : 0V	–
Q14	0V	0.2V	–
Q15	3.9V	0V	–
Q17	14.9V	15.0V	14.1V

X07-2350-12

IC1

6	0.7V

	B	C	E
Q3, 4	−2.0V	–	–
Q15, 16	–	1.1V	–
Q19, 20	–	−1.1V	–
Q21, 22	–	54V	0.6V
Q23, 24	–	−5.4V	−0.6V
Q25~28	–	–	0V
Q29	–	–	54V

X09-2470-12

IC1

2, 3	11.6V	5, 6	11.6V

IC2~4

1	−13.2V	28	5V

IC5

1~3	0.03V	5~7	0.03V
4	−13.2V	8	15V

IC6

1	6.8V	15	5V
11~14	−6.8V		

IC7, 8

18	15V	20	−13.2V

IC10

4, 5	−13.2V	12	3.2V
8	−13.2V	13	15V

IC12

1	21V	2	15V

	B	C	E
Q13, 14	−2.3V	15V	–
Q20	–	–	15V
Q25	–	−45V (−62V)	−33V
Q27	–	−32V	−33V
Q30	–	−13.2V	−13.2V
Q32	–	–	−13.2V
Q33	–	10.7V	5.6V
Q34	–	13V	5.6V

X14-213X-XX

IC1

32	5V	45	5V

IC2~5

8	−30V	9	5V

IC8, 9

8	5V	9	−30V

IC12

1	2.9V	10, 11	3.3V
2, 3	3.6V	12	4.3V
4	2.9V	13	0V
5~9	0V	14	5.6V

IC13

1	2.9V	7	0V
2, 3	3.3V	8~10	3.3V
4	2.9V	11	3.6V
5	0V	12, 13	0V
6	3.9V	14	5.6V

IC14~16

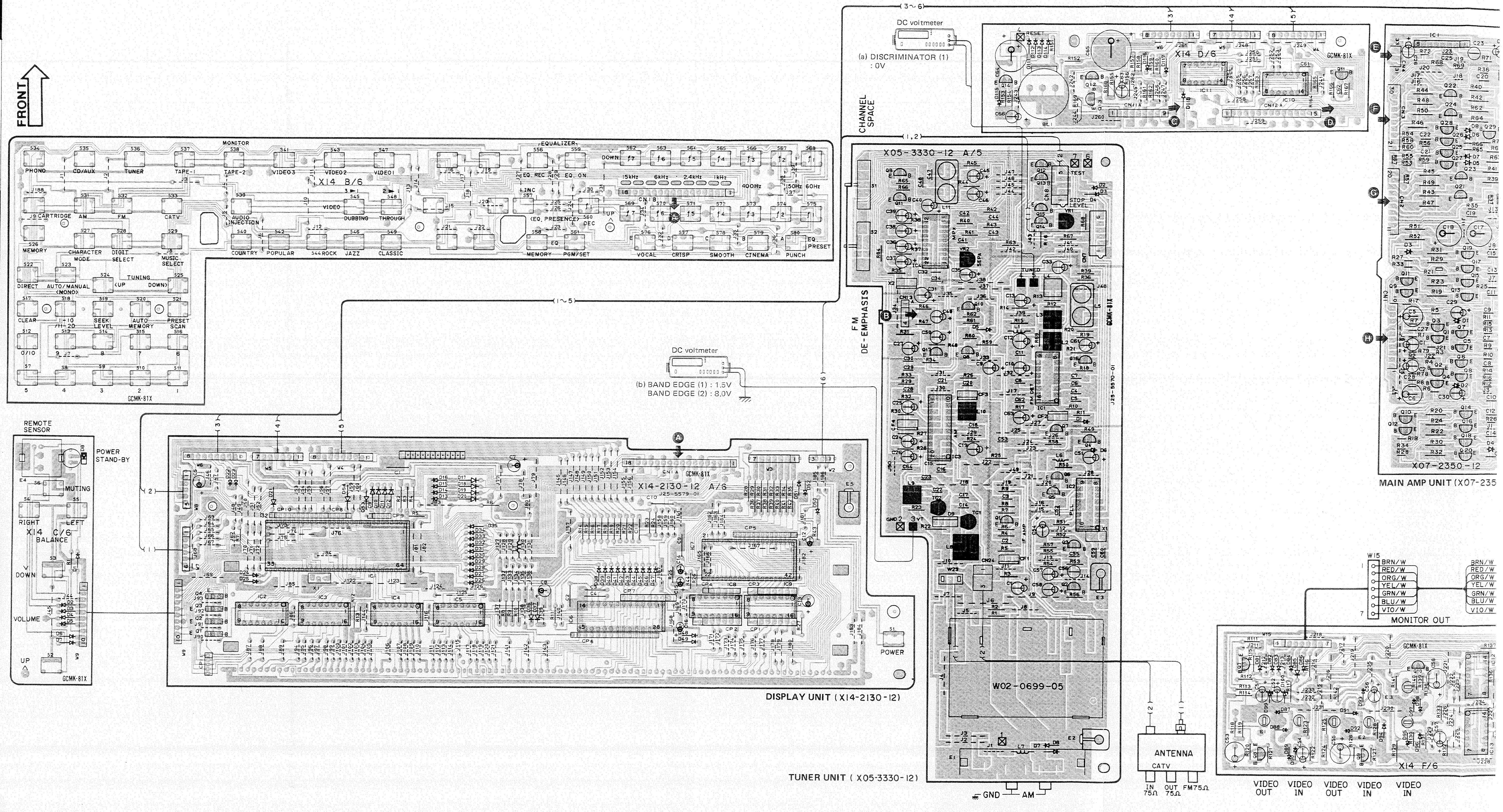
1~3	0.4V	5~7	0.4V
4	−1.51V	8	6.8V

IC17

1	−0.2V	4	−15.1V
2	−0.3V	5~7	0.4V
3	−0.4V	8	15.0V

	B	C	E
Q1~4	–	–	5V
Q7	–	4.3V	–

PC BOARD (COMPONE

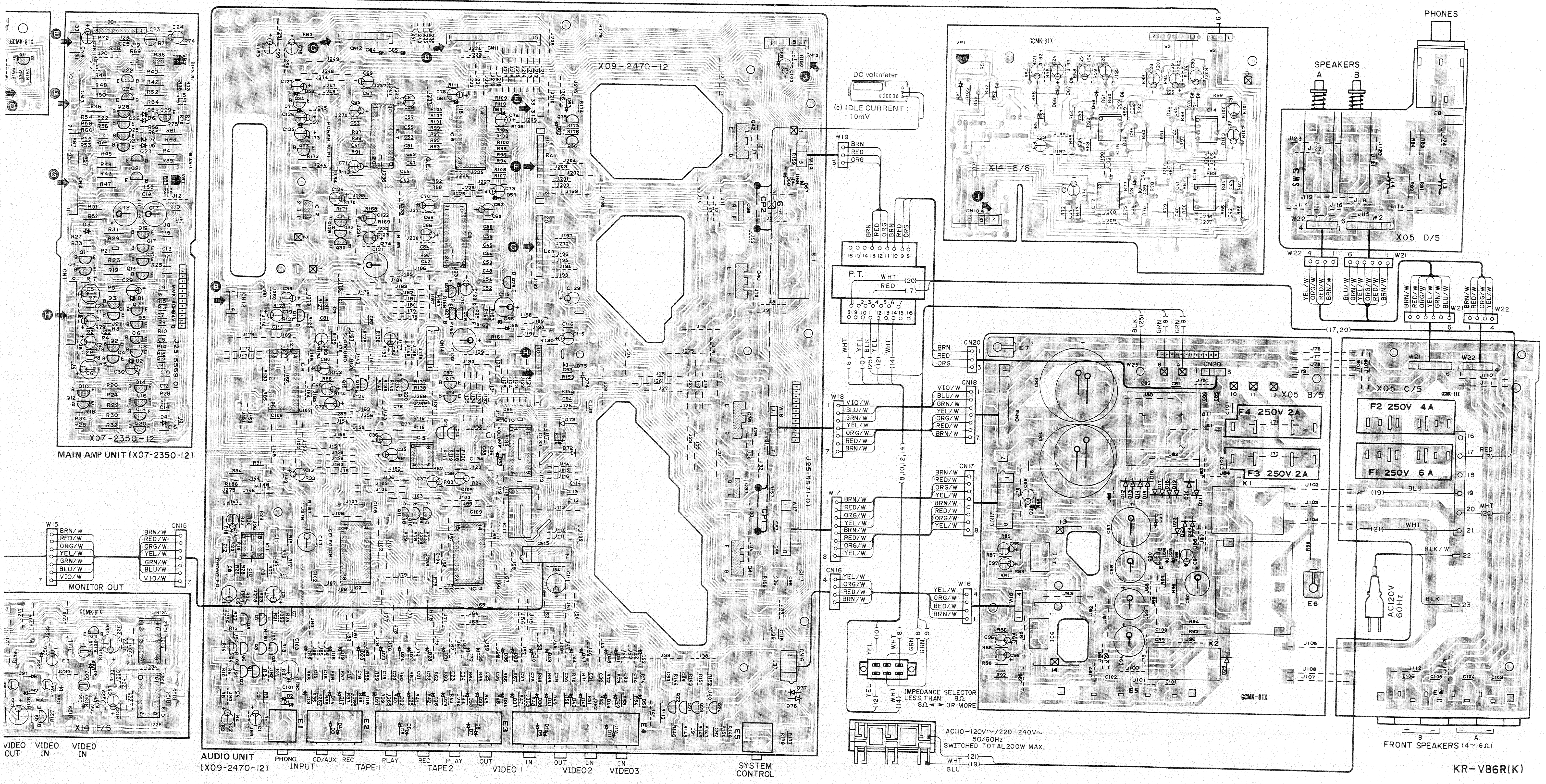

FRONT
DC voltmeter
(a) DISCRIMINATOR (1) : 0V
CHANNEL SPACE
X14 D/6
X14 B/6
X05-3330-12 A/5
FM DE-EMPHASIS
DC voltmeter
(b) BAND EDGE (1) : 1.5V
BAND EDGE (2) : 8.0V
REMOTE SENSOR
POWER STAND-BY
MUTING
RIGHT
LEFT
X14 C/6
BALANCE
DOWN
VOLUME
UP
X14-2130-12 A/6
POWER
W02-0699-05
ANTENNA
CATV
IN 75Ω
OUT 75Ω
FM75Ω
GND
AM
X07-2350-12
MONITOR OUT
X14 F/6
VIDEO OUT
VIDEO IN
VIDEO OUT
VIDEO IN
VIDEO IN

DISPLAY UNIT (X14-2130-12)

TUNER UNIT (X05-3330-12)

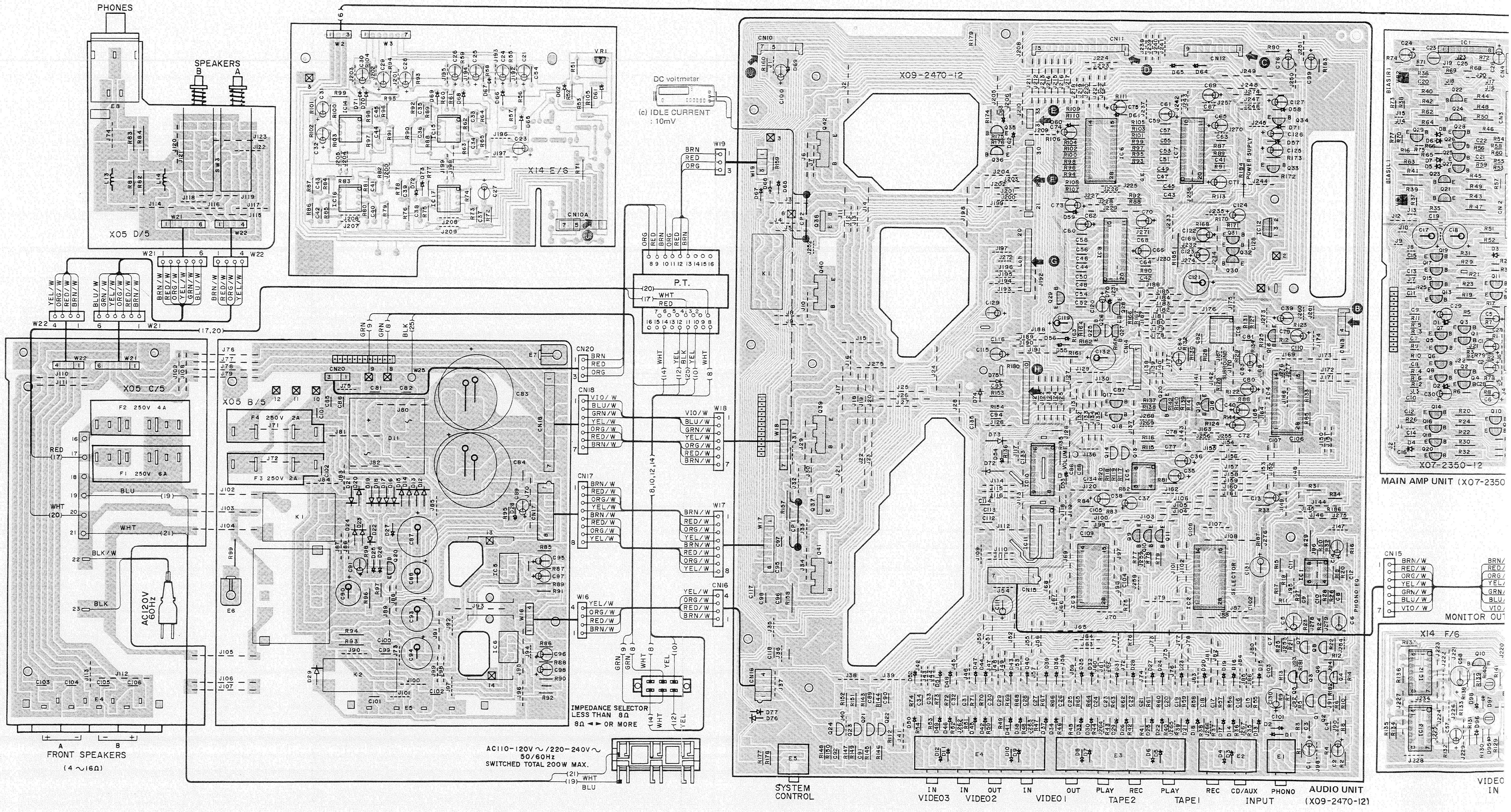
MAIN AMP UNIT (X07-235

ARD (COMPONENT SIDE VIEW)


MAIN AMP UNIT (X07-2350-12)
X07-2350-12
J25-5569-01
GCMK-81X
W15
CN15
BRN/W
RED/W
ORG/W
YEL/W
GRN/W
BLU/W
VIO/W
MONITOR OUT
X14 F/6
VIDEO OUT
VIDEO IN
VIDEO IN
AUDIO UNIT (X09-2470-12)
X09-2470-12
J25-5571-01
PHONO
CD/AUX
INPUT
REC
PLAY
TAPE1
REC
PLAY
TAPE2
OUT
IN
VIDEO1
OUT
IN
VIDEO2
IN
VIDEO3
SYSTEM CONTROL
PHONO EQ.
SELECTOR
SURROUND
VOLUME
POWER SUPPLY
G.E.
CP1
CP2
E1
E2
E3
E4
E5
DC voltmeter
(c) IDLE CURRENT : 10mV
W19
BRN
RED
ORG
P.T.
WHT (20)
RED (17)
W18
VIO/W
BLU/W
GRN/W
YEL/W
ORG/W
RED/W
BRN/W
W17
CN16
YEL/W
ORG/W
RED/W
BRN/W
IMPEDANCE SELECTOR
LESS THAN 8Ω
8Ω◄ ► OR MORE
AC110-120V~/220-240V~
50/60Hz
SWITCHED TOTAL 200W MAX.
WHT (21)
BLU (19)
X14 E/6
GCMK-81X
CN10A
PHONES
SPEAKERS
A
B
SW3
X05 D/5
W21
W22
X05 B/5
X05 C/5
CN20
CN18
CN17
W16
F4 250V 2A
F3 250V 2A
F2 250V 4A
F1 250V 6A
K1
K2
E6
E7
AC120V 60Hz
BLU
WHT
BLK/W
BLK
RED (17)
WHT (20)
FRONT SPEAKERS (4~16Ω)
B
A
KR-V86R(K)

Refer to the schematic diagram for the values of resistors and capacitors.

PC BOARD (FOIL SIDE


PHONES
SPEAKERS
B A
X05 D/5
X14 E/6
DC voltmeter
(c) IDLE CURRENT
: 10mV
X09-2470-12
P.T.
X05 C/5
X05 B/5
F2 250V 4A
F1 250V 6A
F4 250V 2A
F3 250V 2A
AC120V 60Hz
A B
FRONT SPEAKERS
(4 ∼16Ω)
IMPEDANCE SELECTOR
LESS THAN 8Ω
8Ω ◄─► OR MORE
AC110-120V∼/220-240V∼
50/60Hz
SWITCHED TOTAL 200W MAX.
WHT
BLU
SYSTEM
CONTROL
IN
VIDEO3
IN OUT
VIDEO2
IN
VIDEO1
OUT PLAY REC
TAPE2
PLAY REC
TAPE1
CD/AUX
INPUT
PHONO
AUDIO UNIT
(X09-2470-12)
X07-2350-12
MAIN AMP UNIT (X07-2350
X14 F/6
MONITOR OUT
VIDEO
IN
POWER SUPPLY
SELECTOR
PHONO EQ.
VOLUME
SURROUND
BIAS(R)
BIAS(L)
CN15
BRN/W
RED/W
ORG/W
YEL/W
GRN/W
BLU/W
VIO/W

2

3

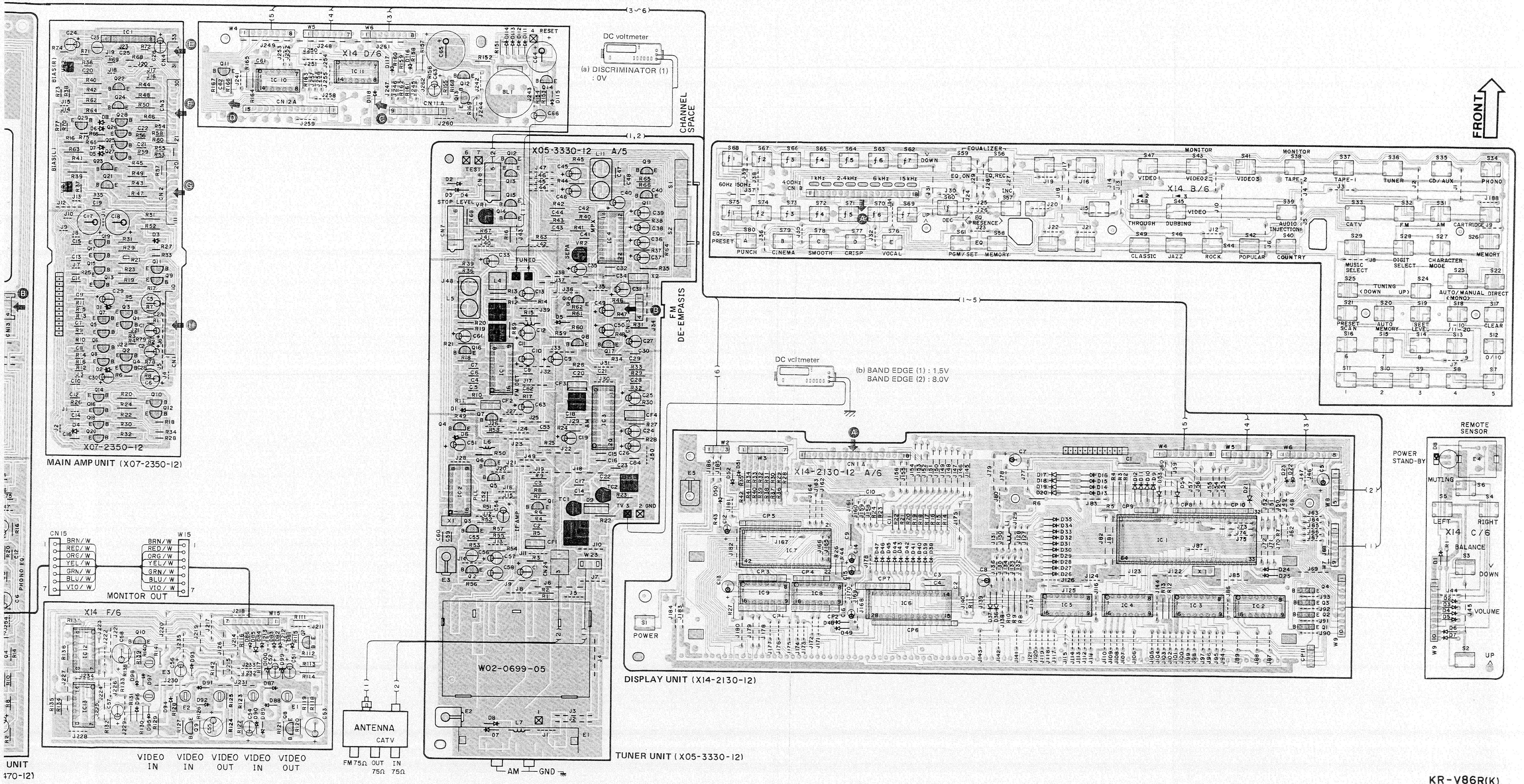
4

5

6

7

ARD (FOIL SIDE VIEW)


DC voltmeter
(a) DISCRIMINATOR (1) : 0V
CHANNEL SPACE
X14 D/6
X05-3330-12 A/5
FM DE-EMPASIS
X07-2350-12
FRONT
EQUALIZER
MONITOR
X14 B/6
DC voltmeter
(b) BAND EDGE (1) : 1.5V
BAND EDGE (2) : 8.0V
X14-2130-12 A/6
REMOTE SENSOR
POWER STAND-BY
MUTING
X14 C/6
BALANCE
VOLUME
DOWN
UP
LEFT
RIGHT
POWER
MONITOR OUT
CN15
W15
BRN/W
RED/W
ORG/W
YEL/W
GRN/W
BLU/W
VIO/W
X14 F/6
W02-0699-05
ANTENNA
CATV
FM 75Ω
OUT 75Ω
IN 75Ω
AM
GND
VIDEO IN
VIDEO IN
VIDEO OUT
VIDEO IN
VIDEO OUT
PUNCH
CINEMA
SMOOTH
CRISP
VOCAL
PGM/SET
MEMORY
CLASSIC
JAZZ
ROCK
POPULAR
COUNTRY
VIDEO 1
VIDEO 2
VIDEO 3
TAPE-2
TAPE-1
TUNER
CD/AUX
PHONO
THROUGH
DUBBING
AUDIO INJECTION
CATV
FM
AM
CARTRIDGE
MUSIC SELECT
DIGIT SELECT
CHARACTER MODE
TUNING
AUTO/MANUAL (MONO)
DIRECT
PRESET SCAN
AUTO MEMORY
SEEK LEVEL
CLEAR
TEST
STOP LEVEL
TUNED
RESET

MAIN AMP UNIT (X07-2350-12)

DISPLAY UNIT (X14-2130-12)

TUNER UNIT (X05-3330-12)

UNIT
470-12)

KR-V86R(K)

Refer to the schematic diagram for the values of resistors and capacitors.

X05-333X-XX

IC1

1~3	3.0V	12	4.6V
4, 5	0V	13	1.3V
6	6.1V	14	0V
7~10	6.2V	15	0.42V
11	13.4V	16	0.47V

IC2

1	1.0V	11	2.7V
2	1.5V	12,13	5.0V
6, 7	0V	14	0V
8	14.0V	15	1.1V
9	0.12V	16	0V
10	0V		

IC3

1	0.1V	11	0.7V
2	0.5V	12	0V
3	0.9V	13	2.0V
4	0V	14	12.4V
5	1.4V	15	1.6V
6	1.1V	16	0V
7, 8	1.4V	17	3.8V
9	2.7V	18, 19	1.3V
10	10.2V	20	0V

IC4

1~4	3.2V	14	4.9V
5	3.1V	15	0V
6, 7	3.2V	16	1.5V
8	3.1V	17	2.8V
9	3.2V	18	2.6V
10	0V	19, 20	2.7V
11	0.4V	21	3.4V
12	0V	22	13.5V
13	4.7V		

	B	C	E
Q4	6.0V	14.1V	5.4V
Q5	0.12V	13.9V	1.4V
Q6	14.0V	1.4V	14.1V
Q7	13.9V	0V	–
Q8	4.6V	–	–
Q9	3.0V	–	–
Q10	0V	4.7V	–
Q13	–	CATV : 12V OTHER : 0V	–
Q14	0V	0.2V	–
Q15	3.9V	0V	–
Q17	14.9V	15.0V	14.1V

X07-2350-12

IC1

6	0.7V

	B	C	E
Q3, 4	–2.0V	–	–
Q15, 16	–	1.1V	–
Q19, 20	–	–1.1V	–
Q21, 22	–	54V	0.6V
Q23, 24	–	–5.4V	–0.6V
Q25~28	–	–	0V
Q29	–	–	54V

X09-2470-12

IC1

2, 3	11.6V	5, 6	11.6V

IC2~4

1	–13.2V	28	5V

IC5

1~3	0.03V	5~7	0.03V
4	–13.2V	8	15V

IC6

1	6.8V	15	5V
11~14	–6.8V		

IC7, 8

18	15V	20	–13.2V

IC10

4, 5	–13.2V	12	3.2V
8	–13.2V	13	15V

IC12

1	21V	2	15V

	B	C	E
Q13, 14	–2.3V	15V	–
Q20	–	–	15V
Q25	–	–45V (–62V)	–33V
Q27	–	–32V	–33V
Q30	–	–13.2V	–13.2V
Q32	–	–	–13.2V
Q33	–	10.7V	5.6V
Q34	–	13V	5.6V

X14-213X-XX

IC1

32	5V	45	5V

IC2~5

8	–30V	9	5V

IC8, 9

8	5V	9	–30V

IC12

1	2.9V	10, 11	3.3V
2, 3	3.6V	12	4.3V
4	2.9V	13	0V
5~9	0V	14	5.6V

IC13

1	2.9V	7	0V
2, 3	3.3V	8~10	3.3V
4	2.9V	11	3.6V
5	0V	12, 13	0V
6	3.9V	14	5.6V

IC14~16

1~3	0.4V	5~7	0.4V
4	–1.51V	8	6.8V

IC17

1	–0.2V	4	–15.1V
2	–0.3V	5~7	0.4V
3	–0.4V	8	15.0V

	B	C	E
Q1~4	–	–	5V
Q7	–	4.3V	–

(X05-333✱-✱✱) (A/5)

IC1	:LA1235
IC2	:LM7001
IC3	:LA1245
IC4	:LA3401
Q1	:2SC1923(R,O)
Q2, 3	:2SC1845(F,E)
Q4, 17	:2SC2003(L,K)
Q5, 6, 13	:DTA124ES
Q7~9, 12, 14, 15	:DTC114ES
Q10, 11, 16	:2SC945(A)(Q,P)
D1,2,4,5,7,8	:1SS176 or 1SS133
D6	:RD6.2ES(B2) or HZS6.2N(B2)
D9	:KV1236(Z2)

(X05-333✱-✱✱)

DESTINATION	No.	R1	R2	R7	R14	R34
K, P	0-12	NO	NO	22	8.2K	22K
U, UE	0-83	NO	NO	22	22K	22K
E	2-71	YES	YES	10	22K	15K

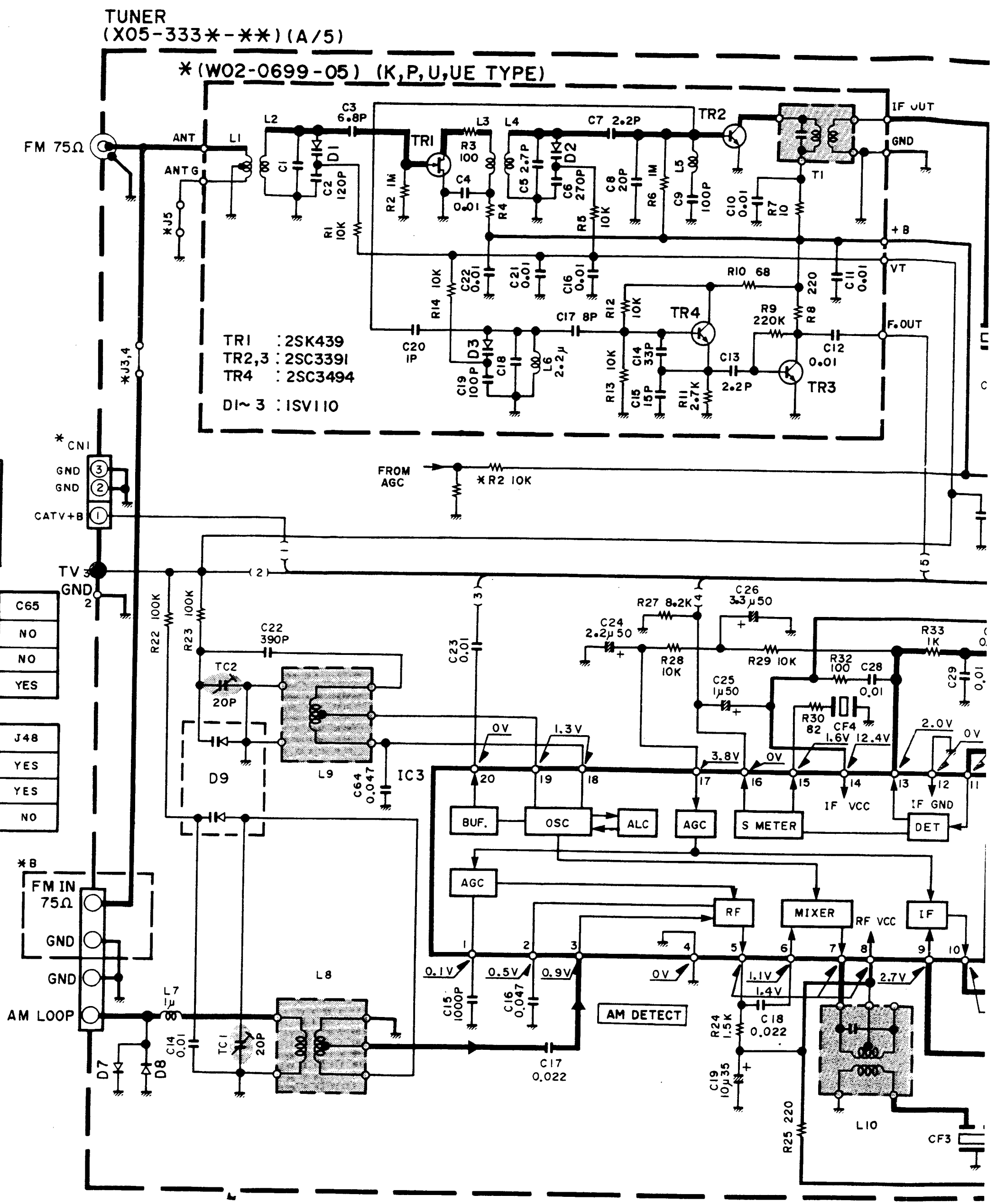
DESTINATION	No.	R40, 41	R42, 43	R67	C7	C41, 42	C65
K, P	0-12	91K	NO	YES	330P	820P	NO
U, UE	0-83	91K	YES	YES	330P	560P	NO
E	2-71	100K	NO	NO	560P	470P	YES

DESTINATION	No.	C43, 44	D4	Q12, 13	S1, 2	J3~5	J48
K, P	0-12	NO	NO	YES	NO	NO	YES
U, UE	0-83	YES	YES	YES	YES	NO	YES
E	2-71	NO	NO	NO	NO	YES	NO

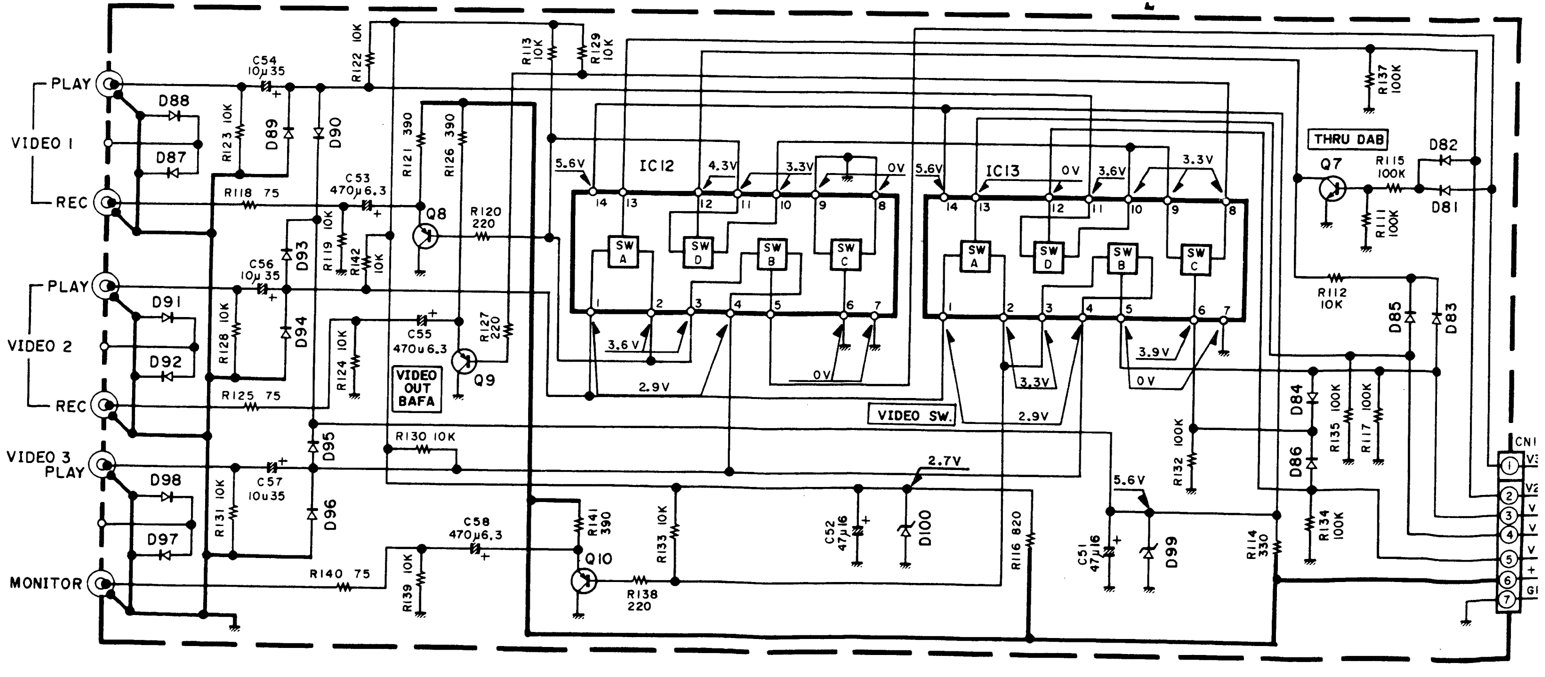
DESTINATION	No.	CN1	D3	VR2	A	B
K, P	0-12	YES	NO	100K	NO	NO
U, UE	0-83	YES	NO	100K	NO	NO
E	2-71	NO	YES	22K	YES	YES

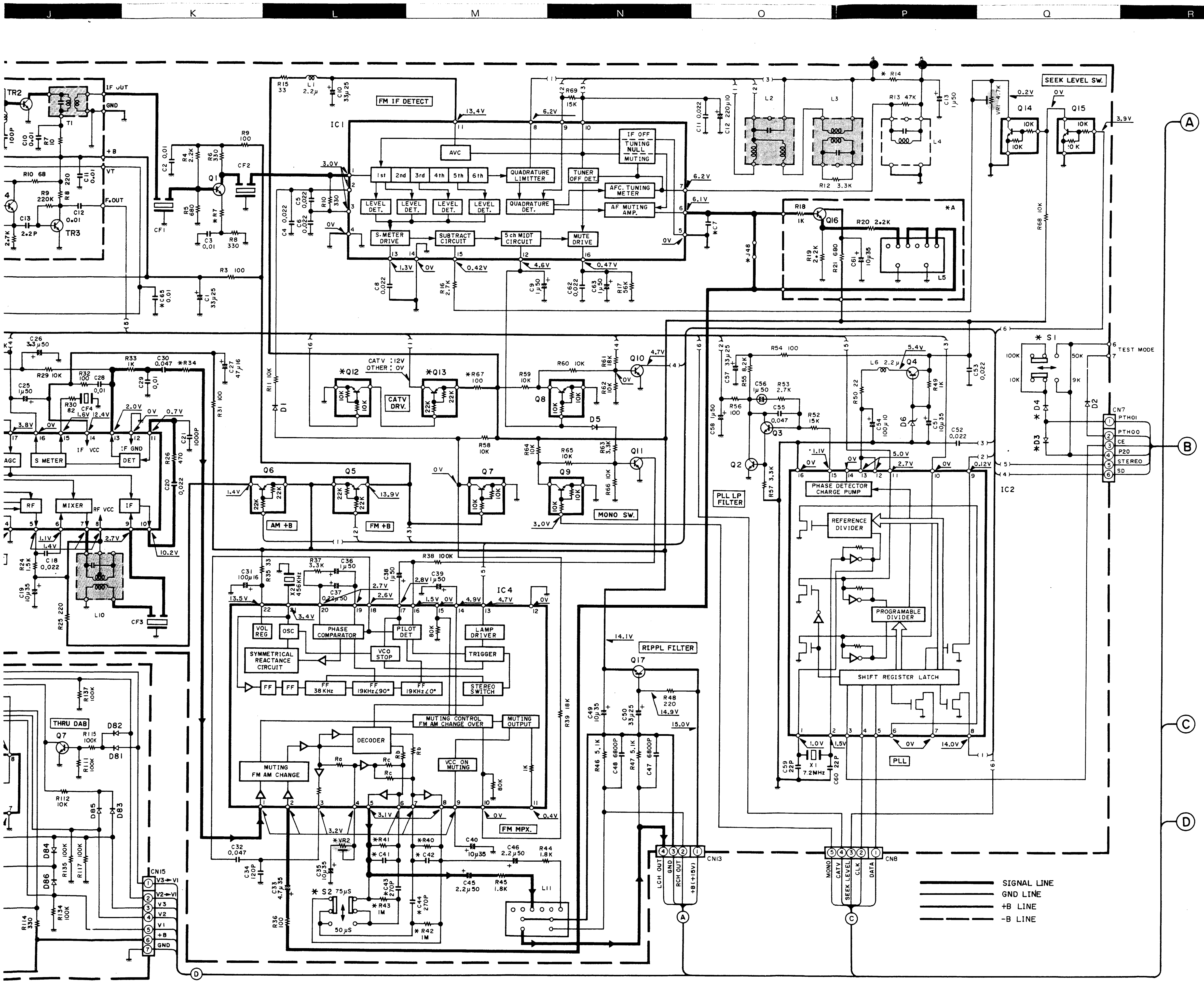
(X14-213✱-✱✱) (F/6)

IC12, 13	:μPD4066BC
Q7	:2SC945(A)(Q,P)
Q8 10	:2SA999(E,F)
D81 98	:1SS176 or 1SS133
D99	:RD5.6ES(B2) or HZS5.6N(B2)
D100	:RD2.7ES(B2) or HZS2.7N(B2)

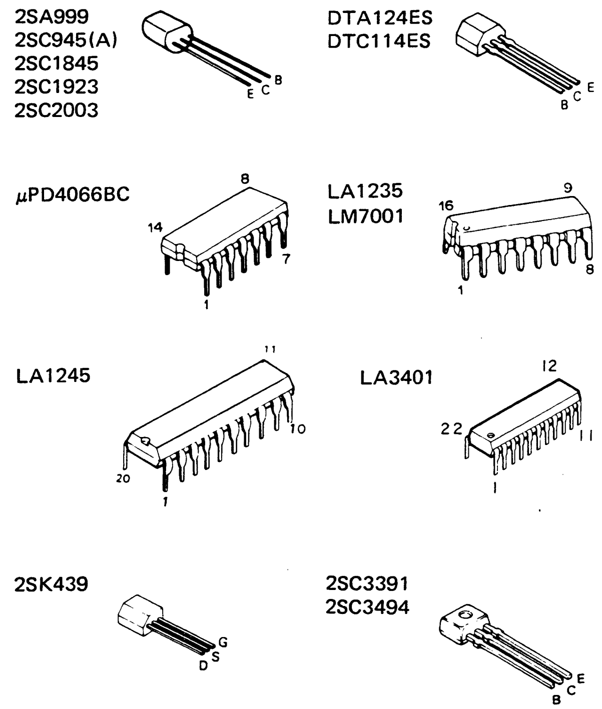

TUNER
(X05-333✱-✱✱) (A/5)
✱(W02-0699-05) (K,P,U,UE TYPE)
FM 75Ω
ANT
ANT G
L1
L2
C3 6.8P
D1
D2
TR1
TR2
TR3
TR4
T1
IF OUT
GND
+B
VT
F.OUT
TR1 :2SK439
TR2,3 :2SC3391
TR4 :2SC3494
D1~3 :1SV110
FROM AGC
✱R2 10K
✱J3,4
✱J5
✱CN1
GND
GND
CATV+B
TV
GND
✱B
FM IN 75Ω
GND
GND
AM LOOP
IC3
BUF.
OSC
ALC
AGC
S METER
DET
AGC
RF
MIXER
RF VCC
IF
IF VCC
IF GND
AM DETECT
TC1
TC2
D9
L7
L8
L9
L10
CF3
CF4
D7
D8

(X14-213✱-✱✱) (F/6)


VIDEO 1
PLAY
REC
VIDEO 2
PLAY
REC
VIDEO 3
PLAY
MONITOR
IC12
IC13
SW A
SW D
SW B
SW C
VIDEO OUT BAFA
VIDEO SW.
THRU DAB
Q7
Q8
Q9
Q10
D81
D82
D83
D84
D85
D86
D87
D88
D89
D90
D91
D92
D93
D94
D95
D96
D97
D98
D99
D100
CN1


J
K
L
M
N
O
P
Q
R
S
T
FM IF DETECT
IC1
AVC
1st
2nd
3rd
4th
5th
6th
QUADRATURE LIMITTER
QUADRATURE DET.
TUNER OFF DET.
IF OFF TUNING NULL MUTING
AFC. TUNING METER
AF MUTING AMP.
LEVEL DET.
S.METER DRIVE
SUBTRACT CIRCUIT
5ch MIDT CIRCUIT
MUTE DRIVE
SEEK LEVEL SW.
Q14
Q15
Q16
L2
L3
L4
L5
*A
CATV DRV.
*Q12
*Q13
Q8
Q10
Q11
Q9
MONO SW.
Q6
Q5
Q7
AM +B
FM +B
PLL LP FILTER
TEST MODE
*S1
CN7
PTH01
PTHOO
CE
P20
STEREO
SD
IC2
PHASE DETECTOR CHARGE PUMP
REFERENCE DIVIDER
PROGRAMABLE DIVIDER
SHIFT REGISTER LATCH
PLL
X1 7.2MHz
RIPPL FILTER
Q17
IC4
VOL REG
OSC
PHASE COMPARATOR
PILOT DET
LAMP DRIVER
SYMMETRICAL REACTANCE CIRCUIT
VCO STOP
TRIGGER
FF
FF 38KHz
FF 19KHz∠90°
FF 19KHz∠0°
STEREO SWITCH
MUTING CONTROL FM AM CHANGE OVER
MUTING OUTPUT
DECODER
MUTING FM AM CHANGE
VCC ON MUTING
FM MPX.
*S2 75μS 50μS
L11
CN13
LCH OUT
GND
RCH OUT
+B(+15V)
CN8
MONO
CATV
SEEK LEVEL
CLK
DATA
TR2
T1
IF OUT
GND
+B
VT
F.OUT
TR3
CF1
CF2
Q1
CF3
L10
AGC
S METER
IF VCC
IF GND
DET
RF
MIXER
RF VCC
IF
THRU DAB
Q7
D81
D82
CN15
V3
V2
V1
+B
GND
A
B
C
D
SIGNAL LINE
GND LINE
+B LINE
-B LINE

KR-V86R(K) (1/3)

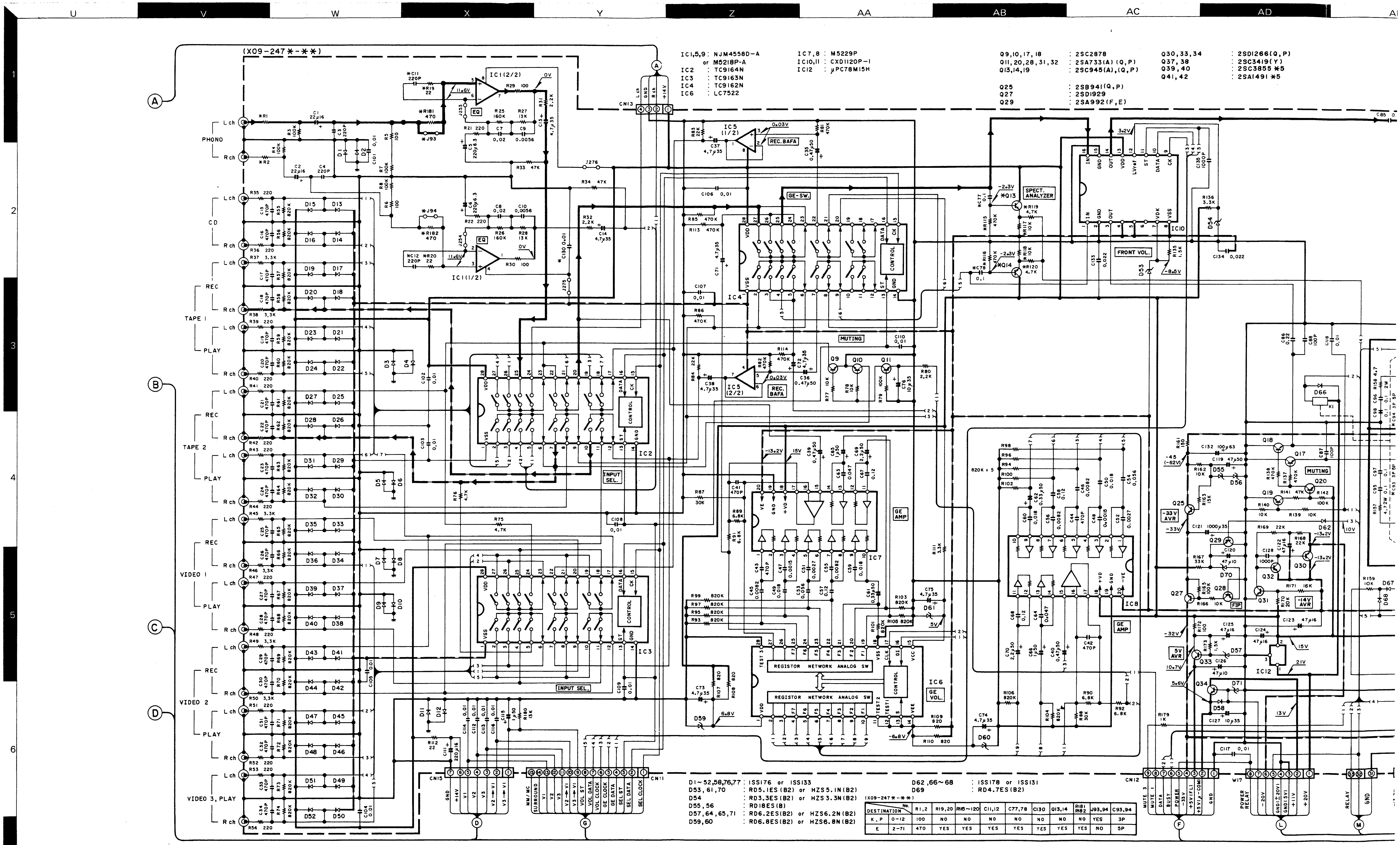

2SA999
2SC945(A)
2SC1845
2SC1923
2SC2003
DTA124ES
DTC114ES
μPD4066BC
LA1235
LM7001
LA1245
LA3401
2SK439
2SC3391
2SC3494
E C B
B C E
D S G

- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.
- Les tensions c.c. doivent être measurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.
- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen. Voltmeter gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen instrumenten oder Geräten u.U. geringfügig.

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

KR-V86R

KENWOOD



U
V
W
X
Y
Z
AA
AB
AC
AD
1
2
3
4
5
6
7
(X09-247✱-✱✱)
PHONO
CD
TAPE 1
TAPE 2
VIDEO 1
VIDEO 2
VIDEO 3, PLAY
REC
PLAY
L ch
R ch
IC1(2/2)
IC1(1/2)
EQ
IC5 (1/2)
IC5 (2/2)
REC. BAFA
GE-SW.
MUTING
SPECT. ANALYZER
FRONT VOL.
INPUT SEL.
GE AMP
GE VOL.
IC2
IC3
IC4
IC6
IC7
IC8
IC10
IC12
REGISTOR NETWORK ANALOG SW
CONTROL
CN11
CN12
CN13
CN15
W17
GND
+14V
V1
V2
V3
SURROUND
MM/MC
VOL DATA
VOL CLOCK
GE CLOCK
GE DATA
SEL DATA
SEL CLOCK
MUTE 3
MUTE 1
DATA
BUSY
POWER
POWER RELAY
RELAY
-33V AVR
-14V AVR
5V AVR
FIP

IC1,5,9 : NJM4558D-A
or M5218P-A
IC2 : TC9164N
IC3 : TC9163N
IC4 : TC9162N
IC6 : LC7522

IC7,8 : M5229P
IC10,11 : CXD1120P-1
IC12 : µPC78M15H

Q9,10,17,18 : 2SC2878
Q11,20,28,31,32 : 2SA733(A) (Q,P)
Q13,14,19 : 2SC945(A),(Q,P)

Q25 : 2SB941(Q,P)
Q27 : 2SD1929
Q29 : 2SA992(F,E)

Q30,33,34 : 2SD1266(Q,P)
Q37,38 : 2SC3419(Y)
Q39,40 : 2SC3855 ✱5
Q41,42 : 2SA1491 ✱5

D1~52,58,76,77 : 1SS176 or 1SS133
D53,61,70 : RD5.1ES(B2) or HZS5.1N(B2)
D54 : RD3.3ES(B2) or HZS3.3N(B2)
D55,56 : RD18ES(B)
D57,64,65,71 : RD6.2ES(B2) or HZS6.2N(B2)
D59,60 : RD6.8ES(B2) or HZS6.8N(B2)

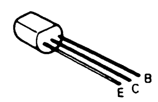
D62,66~68 : 1SS178 or 1SS131
D69 : RD4.7ES(B2)

(X09-247✱-✱✱)

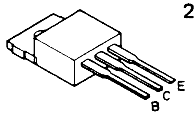
DESTINATION	No.	R1,2	R19,20	R115~120	C11,12	C77,78	C130	Q13,14	R181 R182	J93,94	C93,94
K, P	0-12	100	NO	NO	NO	NO	NO	NO	NO	YES	3P
E	2-71	470	YES	YES	YES	YES	YES	YES	YES	NO	5P

2SA733(A)
2SA992
2SA1123
2SC945(A)
2SC1845

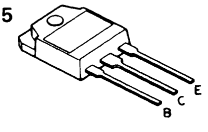
2SC2631
2SC2878
2SD1929



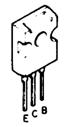
2SD1266



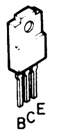
2SA1491✱5
2SC3855✱5



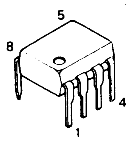
2SC3419



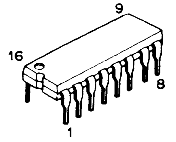
2SA1535
2SB941
2SC3944



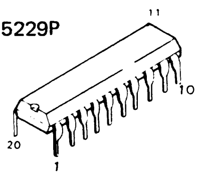
NJM4558D-A



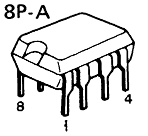
CXD1120P-1



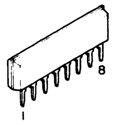
M5229P



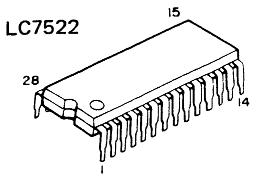
AN6556
M5218P-A



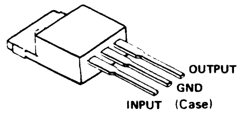
µPC1237HA



LC7522

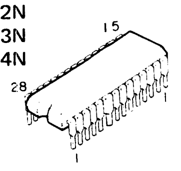


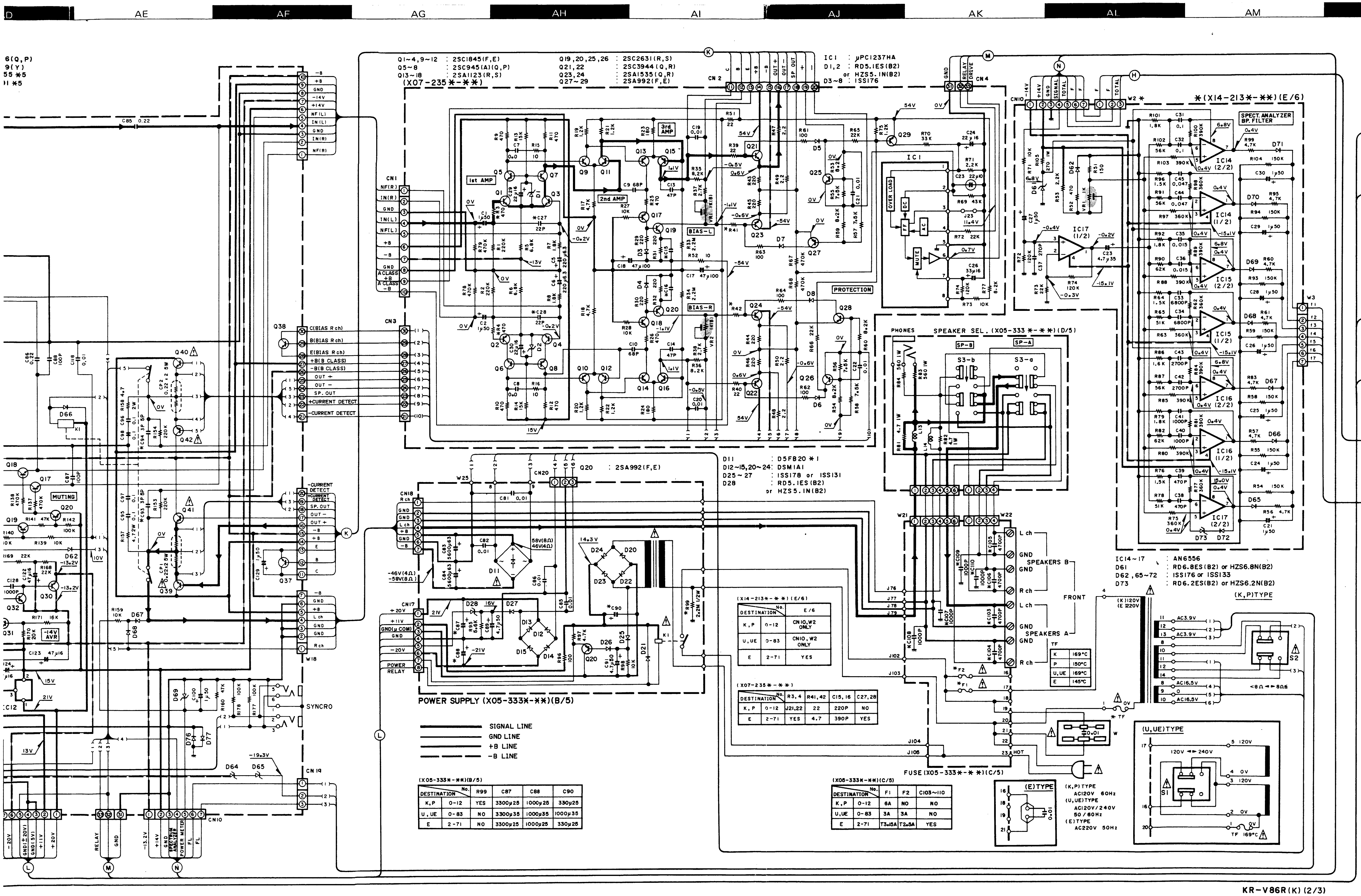
µPC78M15H



OUTPUT
GND
INPUT
(Case)

TC9162N
TC9163N
TC9164N




D
AE
AF
AG
AH
AI
AJ
AK
AL
AM
AN
(X07-235✱-✱✱)
CN1
CN2
CN3
CN4
CN10
CN17
CN18
CN19
CN20
1st AMP
2nd AMP
3rd AMP
BIAS-L
BIAS-R
PROTECTION
IC1
OVER LOAD
MUTE
PHONES
SPEAKER SEL. (X05-333✱-✱✱)(D/5)
SP-B
SP-A
✱(X14-213✱-✱✱)(E/6)
SPECT. ANALYZER BP. FILTER
IC14
IC15
IC16
IC17
POWER SUPPLY (X05-333✱-✱✱)(B/5)
MUTING
SYNCRO
SPEAKERS B
SPEAKERS A
FRONT
L ch
R ch
GND
(K,P)TYPE
(U,UE)TYPE
(E)TYPE
FUSE (X05-333✱-✱✱)(C/5)
S1
S2
TF
W
K
L
M
N
H
B
C
F
G
I

KR-V86R(K)(2/3)

Q1~4,9~12 : 2SC1845(F,E)
Q5~8 : 2SC945(A)(Q,P)
Q13~18 : 2SA1123(R,S)
Q19,20,25,26 : 2SC2631(R,S)
Q21,22 : 2SC3944(Q,R)
Q23,24 : 2SA1535(Q,R)
Q27~29 : 2SA992(F,E)
IC1 : μPC1237HA
D1,2 : RD5.1ES(B2) or HZS5.1N(B2)
D3~8 : 1SS176

Q20 : 2SA992(F,E)

D11 : D5FB20 ✱1
D12~15,20~24 : DSM1A1
D25~27 : 1SS178 or 1SS131
D28 : RD5.1ES(B2) or HZS5.1N(B2)

IC14~17 : AN6556
D61 : RD6.8ES(B2) or HZS6.8N(B2)
D62,65~72 : 1SS176 or 1SS133
D73 : RD6.2ES(B2) or HZS6.2N(B2)

SIGNAL LINE
GND LINE
+B LINE
-B LINE

(X14-213✱-✱✱)(E/6)

DESTINATION	No.	E/6
K,P	0-12	CN10,W2 ONLY
U,UE	0-83	CN10,W2 ONLY
E	2-71	YES

(X07-235✱-✱✱)

DESTINATION	No.	R3,4	R41,42	C15,16	C27,28
K,P	0-12	J21,22	22	220P	NO
E	2-71	YES	4.7	390P	YES

(X05-333✱-✱✱)(B/5)

DESTINATION	No.	R99	C87	C88	C90
K,P	0-12	YES	3300μ25	1000μ25	330μ25
U,UE	0-83	NO	3300μ35	1000μ35	1000μ35
E	2-71	NO	3300μ25	1000μ25	330μ25

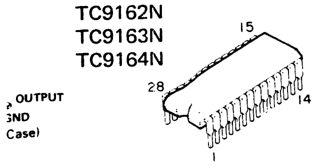
(X05-333✱-✱✱)(C/5)

DESTINATION	No.	F1	F2	C103~110
K,P	0-12	6A	NO	NO
U,UE	0-83	3A	3A	NO
E	2-71	T3.15A	T2.5A	YES

TF

K	169°C
P	150°C
U,UE	169°C
E	145°C

(K,P)TYPE
AC120V 60Hz
(U,UE)TYPE
AC120V/240V
50/60Hz
(E)TYPE
AC220V 50Hz


OUTPUT
GND
Case)
15
28
14
1

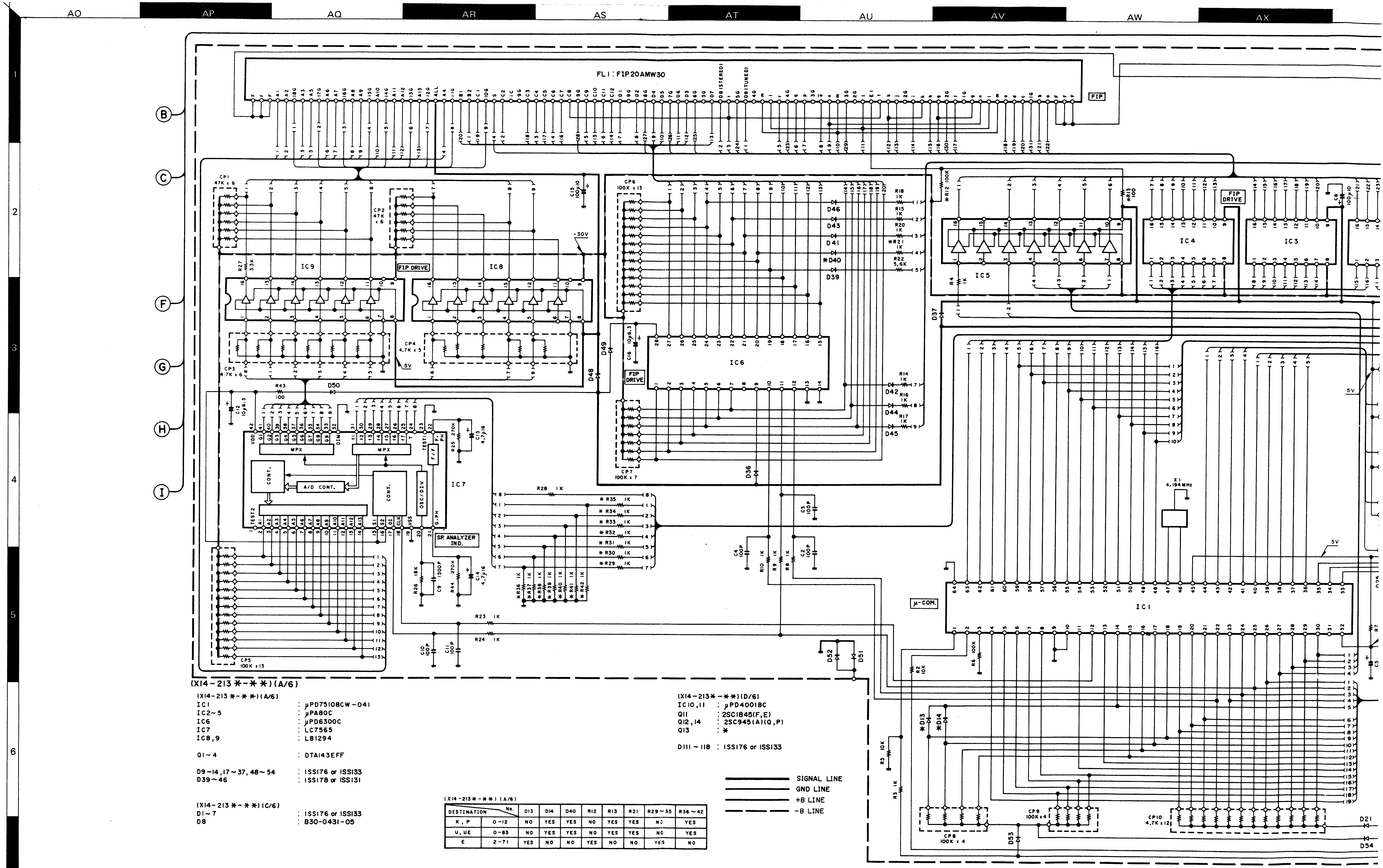
TC9162N
TC9163N
TC9164N

- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.
- Les tensions c.c. doivent être measurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen. Voltmeter gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen instrumenten oder Geräten u.U. geringfügig.

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

KR-V86R
KENWOOD


AO
AP
AQ
AR
AS
AT
AU
AV
AW
AX
1
2
3
4
5
6
7
B
C
F
G
H
I
FL1 : FIP20AMW30
FIP
FIP DRIVE
IC1
IC3
IC4
IC5
IC6
IC7
IC8
IC9
µ-COM.
SP. ANALYZER IND.
MPX
CONT.
A/D CONT.
OSC/DIV
F/F
CP1 47K x 6
CP2 47K x 6
CP3 4.7K x 6
CP4 4.7K x 5
CP5 100K x 13
CP6 100K x 13
CP7 100K x 7
CP8 100K x 4
CP9 100K x 4
CP10 4.7K x 12
X1 4.194MHz
-30V
5V

(X14-213 ✱-✱ ✱)(A/6)

(X14-213 ✱-✱ ✱)(A/6)
IC1 : µPD75108CW-041
IC2~5 : µPA80C
IC6 : µPD6300C
IC7 : LC7565
IC8,9 : LB1294

Q1~4 : DTA143EFF

D9~14,17~37,48~54 : 1SS176 or 1SS133
D39~46 : 1SS178 or 1SS131

(X14-213 ✱-✱ ✱)(C/6)
D1~7 : 1SS176 or 1SS133
D8 : B30-0431-05

(X14-213✱-✱✱)(D/6)
IC10,11 : µPD4001BC
Q11 : 2SC1845(F,E)
Q12,14 : 2SC945(A)(Q,P)
Q13 : ✱

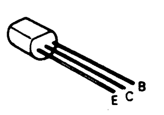
D111~118 : 1SS176 or 1SS133

SIGNAL LINE
GND LINE
+B LINE
-B LINE

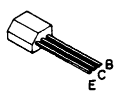
(X14-213✱-✱✱)(A/6)

DESTINATION	No.	D13	D14	D40	R12	R13	R21	R29~35	R36~42
K, P	0-12	NO	YES	YES	NO	YES	YES	NO	YES
U, UE	0-83	NO	YES	YES	NO	YES	YES	NO	YES
E	2-71	YES	NO	NO	YES	NO	NO	YES	NO

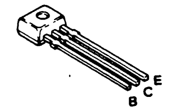
2SC535
2SC945(A)
2SC1845
2SC2003



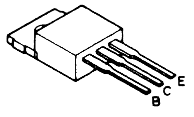
2SC2839



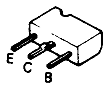
2SC3391



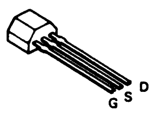
2SD1266



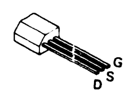
DTA143EFF



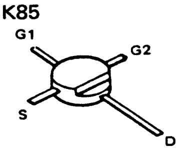
2SK241



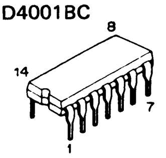
2SK439



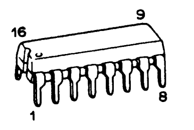
3SK85



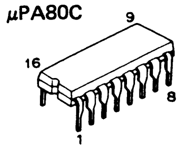
µPD4001BC



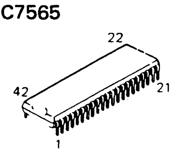
LB1294



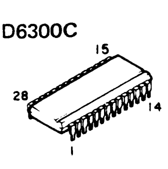
µPA80C



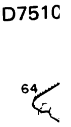
LC7565

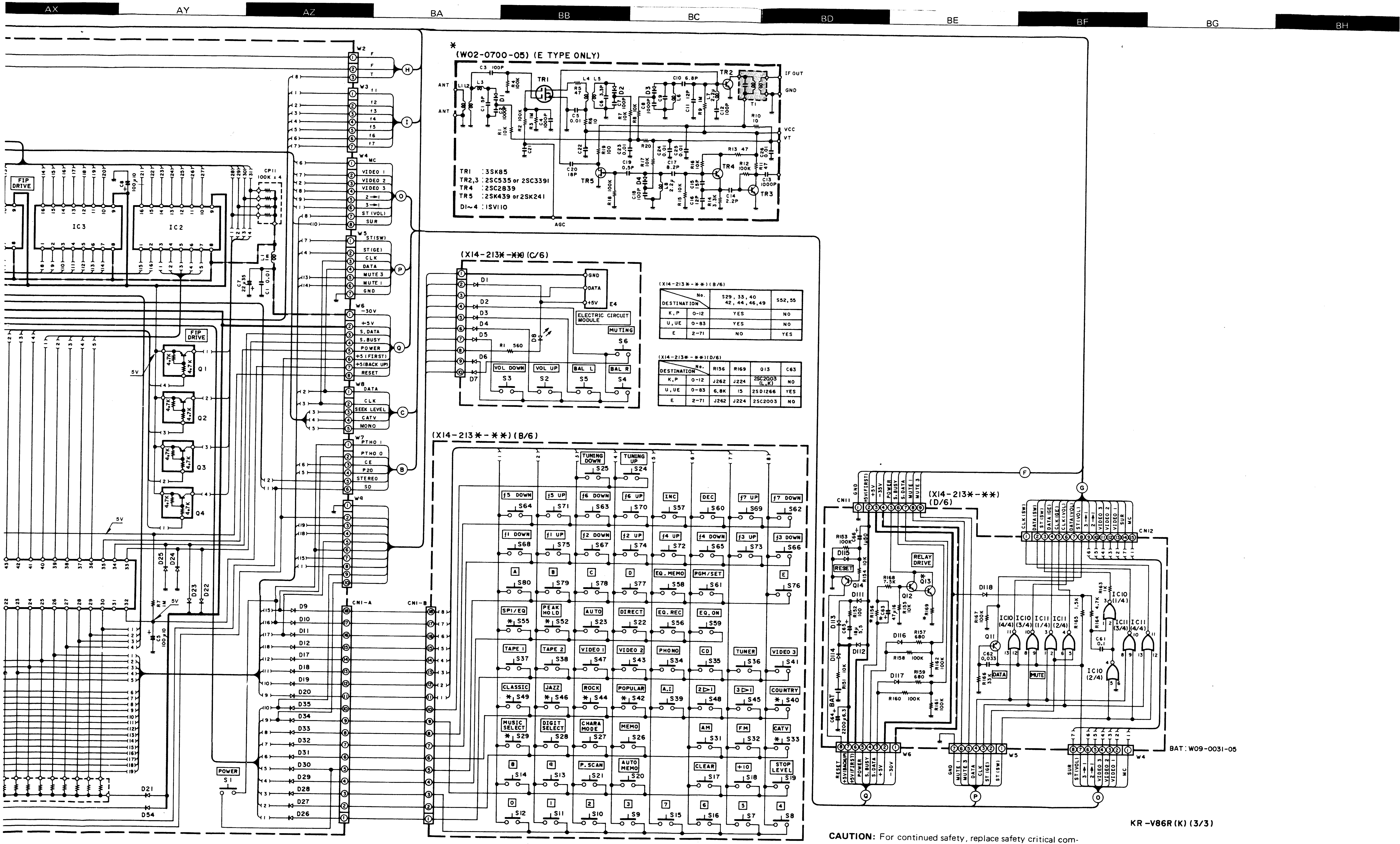


µPD6300C



µPD751




AX
AY
AZ
BA
BB
BC
BD
BE
BF
BG
BH
(W02-0700-05) (E TYPE ONLY)
ANT
IF OUT
GND
VCC
VT
AGC
TR1 :3SK85
TR2,3 :2SC535 or 2SC3391
TR4 :2SC2839
TR5 :2SK439 or 2SK241
D1~4 :1SV110
(X14-213*-**) (C/6)
ELECTRIC CIRCUIT MODULE
MUTING
VOL DOWN
VOL UP
BAL L
BAL R
(X14-213*-**) (B/6)
(X14-213*-**) (D/6)
FIP DRIVE
IC3
IC2
CP11 100K x 4
RELAY DRIVE
RESET
DATA
MUTE
POWER
BAT : W09-0031-05
CN1-A
CN1-B
CN11
CN12
W2
W3
W4
W5
W6
W7
W8
W9

(X14-213*-**) (B/6)

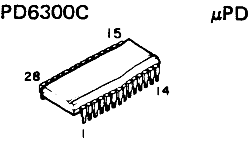
DESTINATION	No.	S29, 33, 40 42, 44, 46, 49	S52, 55
K, P	0-12	YES	NO
U, UE	0-83	YES	NO
E	2-71	NO	YES

(X14-213*-**) (D/6)

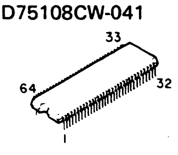
DESTINATION	No.	R156	R169	Q13	C63
K, P	0-12	J262	J224	2SC2003 (L, K)	NO
U, UE	0-83	6.8K	15	2SD1266	YES
E	2-71	J262	J224	2SC2003	NO

KR -V86R (K) (3/3)

µPD6300C



µPD75108CW-041



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- Les tensions c.c. doivent être measurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

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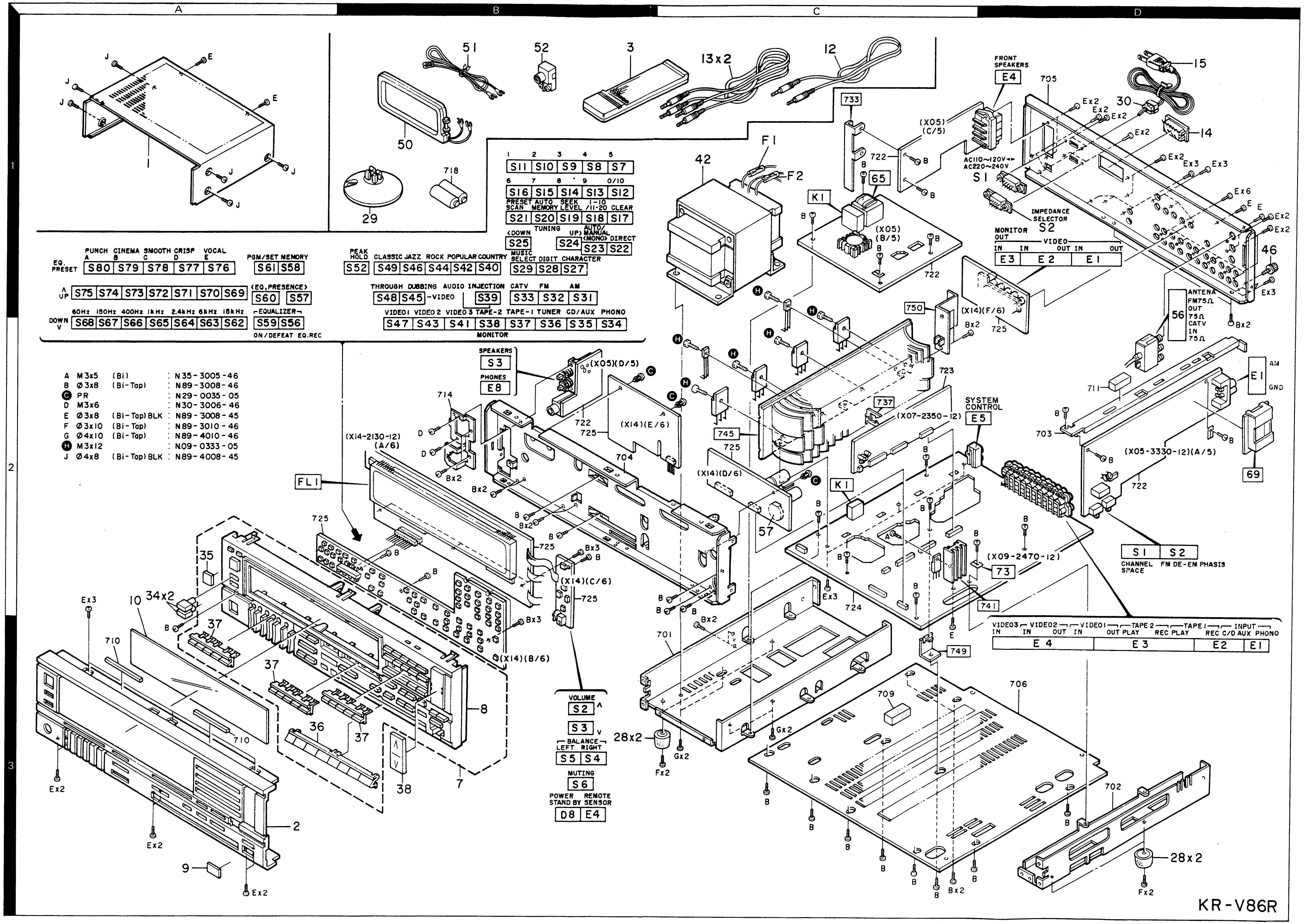
KR-V86R

KENWOOD

EXPLODED VIEW


A
B
C
D
1
2
3
51
52
3
13x2
12
50
718
29
1
J
E
FRONT SPEAKERS
E4
705
15
30
14
733
(X05)(C/5)
722
B
65
K1
AC110~120V AC220~240V
S1
IMPEDANCE SELECTOR
S2
MONITOR OUT
VIDEO
IN IN OUT IN OUT
E3
E2
E1
46
Ex2
Ex3
Ex6
F1
F2
42
(X05)(B/5)
750
(X14)(F/6)
725
56
ANTENA FM75Ω OUT 75Ω CATV IN 75Ω
AM
GND
711
703
(X05-3330-12)(A/5)
69
1 2 3 4 5
S11 S10 S9 S8 S7
6 7 8 9 0/10
S16 S15 S14 S13 S12
PRESET SCAN
AUTO MEMORY
SEEK LEVEL
1-10 /11-20
CLEAR
S21 S20 S19 S18 S17
DOWN TUNING UP
S25 S24
AUTO/MANUAL (MONO) DIRECT
S23 S22
MUSIC SELECT DIGIT CHARACTER
S29 S28 S27
EQ. PRESET
PUNCH CINEMA SMOOTH CRISP VOCAL
A B C D E
S80 S79 S78 S77 S76
PGM/SET MEMORY
S61 S58
PEAK HOLD
CLASSIC JAZZ ROCK POPULAR COUNTRY
S52 S49 S46 S44 S42 S40
UP
S75 S74 S73 S72 S71 S70 S69
(EQ, PRESENCE)
S60 S57
THROUGH DUBBING AUDIO INJECTION CATV FM AM
S48 S45 -VIDEO S39 S33 S32 S31
60Hz 150Hz 400Hz 1kHz 2.4kHz 6kHz 15kHz
EQUALIZER
DOWN
S68 S67 S66 S65 S64 S63 S62
S59 S56
ON/DEFEAT EQ.REC
VIDEO1 VIDEO2 VIDEO3 TAPE-2 TAPE-1 TUNER CD/AUX PHONO
S47 S43 S41 S38 S37 S36 S35 S34
MONITOR
SPEAKERS
S3
PHONES
E8
(X05)(D/5)
714
722
725
(X14)(E/6)
(X14-2130-12)(A/6)
704
FL1
737
(X07-2350-12)
SYSTEM CONTROL
E5
745
723
(X14)(D/6)
57
K1
(X09-2470-12)
73
741
S1 S2
CHANNEL SPACE
FM DE-EN PHASIS
VIDEO3 IN
VIDEO2 IN OUT
VIDEO1 IN OUT
TAPE 2 PLAY REC
TAPE 1 PLAY REC
INPUT C/D AUX PHONO
E4 E3 E2 E1
749
724
701
706
709
702
28x2
Fx2
Gx2
35
34x2
10
37
710
725
(X14)(C/6)
(X14)(B/6)
Bx3
8
36
38
7
2
9
VOLUME
S2
S3
BALANCE LEFT RIGHT
S5 S4
MUTING
S6
POWER STAND BY
REMOTE SENSOR
D8 E4
KR-V86R

A	M3x5	(Bi)	: N35-3005-46
B	Ø3x8	(Bi-Tap)	: N89-3008-46
Ⓒ	PR		: N29-0035-05
D	M3x6		: N30-3006-46
E	Ø3x8	(Bi-Tap) BLK	: N89-3008-45
F	Ø3x10	(Bi-Tap)	: N89-3010-46
G	Ø4x10	(Bi-Tap)	: N89-4010-46
Ⓗ	M3x12		: N09-0333-05
J	Ø4x8	(Bi-Tap) BLK	: N89-4008-45

Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

⁎ New Parts

Parts without **Parts No.** are not supplied.

Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.

Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti-nation 仕向	Re-marks 備考
C40			CE04LW1V100M	ELECTRO 10UF 35WV		
C41 ,42			CK45FB1H471K	CERAMIC 470PF K	E	
C41 ,42			CK45FB1H561K	CERAMIC 560PF K	UUE	
C41 ,42			CK45FB1H821K	CERAMIC 820PF K	KP	
C43 ,44			CC45FSL1H271J	CERAMIC 270PF J	UUE	
C45 ,46			CE04LW1H2R2M	ELECTRO 2. 2UF 50WV		
C47 ,48			CF92FV1H682J	MF 6800PF J		
C49			CE04LW1V100M	ELECTRO 10UF 35WV		
C50		*	CE04LW1E330M	ELECTRO 33UF 25WV		
C51			CE04LW1V100M	ELECTRO 10UF 35WV		
C52 ,53			CK45FF1H223Z	CERAMIC 0. 022UF Z		
C54			CE04LW1A101M	ELECTRO 100UF 10WV		
C55			CF92FV1H473J	MF 0. 047UF J		
C56			C90-1349-05	NP-ELEC 1UF 50WV		
C57		*	CE04LW1E330M	ELECTRO 33UF 25WV		
C58			CE04LW1H010M	ELECTRO 1. 0UF 50WV		
C59 ,60			CC45FCH1H220J	CERAMIC 22PF J		
C61			CE04LW1V100M	ELECTRO 10UF 35WV	E	
C62			CK45FF1H223Z	CERAMIC 0. 022UF Z		
C63			CE04LW1H010M	ELECTRO 1. 0UF 50WV		
C64			CK45FF1H473Z	CERAMIC 0. 047UF Z		
C65			CK45FF1H103Z	CERAMIC 0. 010UF Z	E	
C81 ,82			CK45FF1H103Z	CERAMIC 0. 010UF Z		
C83 ,84			C90-1500-05	ELECTRO 5600UF 63WV		
C85 ,86			CK45FF1H103Z	CERAMIC 0. 010UF Z		
C87			CE04EW1E332M	ELECTRO 3300UF 25WV	KPE	
C87		*	CE04EW1V332M	ELECTRO 3300UF 35WV	UUE	
C88			CE04EW1E102M	ELECTRO 1000UF 25WV	KPE	
C88			CE04EW1V102M	ELECTRO 1000UF 35WV	UUE	
C89			CE04LW1H4R7M	ELECTRO 4. 7UF 50WV		
C90			CE04EW1E331M	ELECTRO 330UF 25WV	KPE	
C90			CE04EW1V102M	ELECTRO 1000UF 35WV	UUE	
C91			CE04LW1H4R7M	ELECTRO 4. 7UF 50WV		
C103-106			CK45FF1H472Z	CERAMIC 4700PF Z	E	
C157,158			CK45FF1H103Z	CERAMIC 0. 010UF Z	UUE	
TC1 ,2			C05-0303-05	CERAMIC TRIMMER CAPACITOR(20PF		
E1	2D		E20-0231-05	SCREW TERMINAL BOARD(2P)AM,GND	KPUUE	
E1	2D		E20-0318-05	SCREW TERMINAL BOARD(2P)AM,GND	E	
E4	1D		E20-0823-05	LOCK TERMINAL BOARD(8P) SP		
E8	2B		E11-0162-05	PHONE JACK (3P)		
⚠ F1	1C		F05-3121-05	FUSE (SEMKO) (250V T3. 15A)	E	
⚠ F1	1C		F05-6027-05	FUSE (UL) (250V 6A)	KP	
⚠ F1 ,2	1C		F05-3022-05	FUSE (250V 3A)	UUE	
⚠ F2	1C		F05-2525-05	FUSE (SEMKO) (250V T2. 5A)	E	
61	1C		J13-0041-05	FUSE CLIP	KPUUE	
61	1C		J13-0054-05	FUSE CLIP	E	
⚠ 65	1C		L01-7651-05	POWER TRANSFORMER	KP	
⚠ 65	1C		L01-7652-05	POWER TRANSFORMER	E	
⚠ 65	1C	*	L01-7658-05	POWER TRANSFORMER	UUE	
CF1 ,2			L72-0140-05	CERAMIC FILTER	KPUUE	
CF1 ,2			L72-0190-05	CERAMIC FILTER	E	
CF3			L72-0099-05	CERAMIC FILTER		
CF4			L72-0096-05	CERAMIC FILTER		

E: Scandinavia & Europe **K**: USA **P**: Canada

U: PX(Far East, Hawaii) **T**: England **M**: Other Areas

UE : AAFES(Europe) **X**: Australia

⚠ indicates safety critical components.

KR-V86R

PARTS LIST

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
L1			L40-2292-17	SMALL FIXED INDUCTOR(2.2UH,M)		
L2		*	L30-0464-05	FM IFT		
L3		*	L30-0465-05	FM IFT		
L4			L39-0128-05	PEAKING COIL		
L5			L79-0125-05	LC FILTER	E	
L6			L40-2292-17	SMALL FIXED INDUCTOR(2.2UH,M)		
L7			L40-1092-14	SMALL FIXED INDUCTOR(1.0UH,M)		
L8			L31-0509-05	MW-RF COIL		
L9			L32-0277-15	MW OSCILLATING COIL		
L10			L30-0362-05	AM IFT		
L11			L79-0739-05	LC FILTER		
L13 ,14			L39-0085-05	PHASE-COMPENSATION COIL		
X1		*	L77-1122-05	CRYSTAL RESONATOR		
X2		*	L78-0208-05	RESONATOR (456KHZ)		
R3			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
R15			RD14GB2E330J	FL-PROOF RD 33 J 1/4W		
R31			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
R35			RD14GB2E330J	FL-PROOF RD 33 J 1/4W		
R50			RD14GB2E220J	FL-PROOF RD 22 J 1/4W		
R81 ,82			RS14KB3A4R7J	FL-PROOF RS 4.7 J 1W		
R83 ,84			RS14KB3A561J	FL-PROOF RS 560 J 1W		
R96			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
R99			R92-0173-05	RC 2.2M M 1/2W	KP	
VR1			R12-1069-05	TRIMMING POT.(4.7K)STOP LEVEL		
VR2			R12-3097-05	TRIMMING POT.(22K) SEPA	E	
VR2			R12-5046-05	TRIMMING POT.(100K)SEPA	KPUUE	
⚠ K1	1C		S51-1036-05	MAGNETIC RELAY		
S1 ,2	2D		S31-2094-05	SLIDE SWITCH (H,FM-EMP)	UUE	
S3	2B		S42-2152-05	MULTIPLE PUSH SWITCH		
D1 -3			1SS133	DIODE	E	
D1 -3			1SS176	DIODE	E	
D1 ,2			1SS133	DIODE	KPUUE	
D1 ,2			1SS176	DIODE	KPUUE	
D4 ,5			1SS133	DIODE	UUE	
D4 ,5			1SS176	DIODE	UUE	
D5			1SS133	DIODE	KPE	
D5			1SS176	DIODE	KPE	
D6			HZS6.2N(B2)	ZENER DIODE		
D6			RD6.2ES(B2)	ZENER DIODE		
D7 ,8			1SS133	DIODE		
D7 ,8			1SS176	DIODE		
D9			KV1236(Z2)	VARIABLE CAPACITANCE DIODE		
D11			D5FB20*1	DIODE		
D12 -15			DSM1A1	DIODE		
D20 -24			DSM1A1	DIODE		
D25 -27			1SS131	DIODE		
D25 -27			1SS178	DIODE		
D28			HZS5.1N(B2)	ZENER DIODE		
D28			RD5.1ES(B2)	ZENER DIODE		
IC1			LA1235	IC(FM IF/DETECTION)		
IC2			LM7001	IC(PLL FREQUENCY SYNTHESIZER)		
IC3			LA1245	IC(AM)		
IC4		*	LA3401	IC(FM MPX)		
Q1			2SC1923(R,O)	TRANSISTOR		

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Q2 ,3			2SC1845(F,E)	TRANSISTOR		
Q4			2SC2003(L,K)	TRANSISTOR		
Q5 ,6		*	DTA124ES	DIGITAL TRANSISTOR		
Q7 -9		*	DTC114ES	DIGITAL TRANSISTOR		
Q10 ,11			2SC945(A)(Q,P)	TRANSISTOR		
Q12		*	DTC114ES	DIGITAL TRANSISTOR	KPUUE	
Q13		*	DTA124ES	DIGITAL TRANSISTOR	KPUUE	
Q14 ,15		*	DTC114ES	DIGITAL TRANSISTOR		
Q16			2SC945(A)(Q,P)	TRANSISTOR	E	
Q17			2SC2003(L,K)	TRANSISTOR		
Q20			2SA992(F,E)	TRANSISTOR		
69	2D		W02-0699-05	FM FRONT-END ASSY	KPUUE	
69	2D		W02-0700-05	FM FRONT-END ASSY	E	
MAIN AMPLIFIER UNIT (X07-2350-12)						
C1 ,2			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C5 ,6		*	CE04LW0J221M	ELECTRO 220UF 6.3WV		
C7 ,8			CF92FV1H113J	MF 0.011UF J		
C9 ,10			CC45FSL1H680J	CERAMIC 68PF J		
C13 ,14			CC45FSL1H470J	CERAMIC 47PF J		
C15 ,16			CC45FSL1H221J	CERAMIC 220PF J	KPUUE	
C15 ,16			CK45FB1H391K	CERAMIC 390PF K		
C17 ,18			CE04LW2A470M	ELECTRO 47UF 100WV		
C19 -22			CK45FF1H103Z	CERAMIC 0.010UF Z		
C23			C90-1333-05	NP-ELEC 22UF 10WV		
C24			CE04LW1C220M	ELECTRO 22UF 16WV		
C26		*	CE04LW1C330M	ELECTRO 33UF 16WV		
C27 ,28			CC45FSL1H220J	CERAMIC 22PF J	E	
C29 ,30			CE04LW1C220M	ELECTRO 22UF 16WV		
R19 -22			RD14GB2E122J	FL-PROOF RD 1.2K J 1/4W		
R23 ,24			RD14GB2E181J	FL-PROOF RD 180 J 1/4W		
R29 -32			RD14GB2E221J	FL-PROOF RD 220 J 1/4W		
R39 -42			RD14GB2E220J	FL-PROOF RD 22 J 1/4W	KPUUE	
R39 ,40			RD14GB2E220J	FL-PROOF RD 22 J 1/4W	E	
R41 ,42			RD14GB2E4R7J	FL-PROOF RD 4.7 J 1/4W	E	
R43 -46			RD14GB2E221J	FL-PROOF RD 220 J 1/4W		
R47 -50			RD14GB2E2R2J	FL-PROOF RD 2.2 J 1/4W		
R51			RD14GB2E220J	FL-PROOF RD 22 J 1/4W	KPUUE	
R51			RD14GB2E220J	FL-PROOF RD 22 J 1/4W	E	
R52			RD14GB2E100J	FL-PROOF RD 10 J 1/4W		
R61 -64			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
VR1 ,2			R12-1070-05	TRIMMING POT.(1K)BIAS ADJ		
D1 ,2			HZS5.1N(B2)	ZENER DIODE		
D1 ,2			RD5.1ES(B2)	ZENER DIODE		
D3 -8			1SS176	DIODE		
IC1			UPC1237HA	IC(POWER AMP)		
Q1 -4			2SC1845(F,E)	TRANSISTOR		
Q5 -8			2SC945(A)(Q,P)	TRANSISTOR		
Q9 -12			2SC1845(F,E)	TRANSISTOR		
Q13 -18			2SA1123(R,S)	TRANSISTOR		
Q19 ,20			2SC2631(R,S)	TRANSISTOR		
Q21 ,22			2SC3944(Q,R)	TRANSISTOR		
Q23 ,24			2SA1535(Q,R)	TRANSISTOR		
Q25 ,26			2SC2631(R,S)	TRANSISTOR		

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Q27 -29			2SA992(F,E)	TRANSISTOR		
AUDIO UNIT (X09-2470-12)						
C1 ,2			CE04LW1C220M	ELECTRO 22UF 16WV		
C3 ,4			CC45FSL1H221J	CERAMIC 220PF J		
C5 ,6		*	CE04LW0J221M	ELECTRO 220UF 6.3WV		
C7 ,8			CF92FV1H203J	MF 0.020UF J		
C9 ,10			CF92FV1H562J	MF 5600PF J		
C11 ,12			CF92FV1H222J	MF 2200PF J	E	
C13 ,14			CE04LW1V4R7M	ELECTRO 4.7UF 35WV		
C15 -34			CK45FB1H471K	CERAMIC 470PF K		
C35 ,36			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C37 ,38			CE04LW1V4R7M	ELECTRO 4.7UF 35WV		
C39 ,40			CE04LW1HR47M	ELECTRO 0.47UF 50WV		
C41 -44			CK45FB1H471K	CERAMIC 470PF K		
C45 ,46			CF92FV1H822J	MF 8200PF J		
C47 ,48			CF92FV1H152J	MF 1500PF J		
C49 ,50			CF92FV1H183J	MF 0.018UF J		
C51 ,52			CF92FV1H272J	MF 2700PF J		
C53 ,54			CF92FV1H563J	MF 0.056UF J		
C55 ,56			CF92FV1H822J	MF 8200PF J		
C57 ,58			CF92FV1H124J	MF 0.12UF J		
C59 ,60			CF92FV1H183J	MF 0.018UF J		
C61 ,62		*	CE04LW1HR33M	ELECTRO 0.33UF 50WV		
C63 ,64			CF92FV1H473J	MF 0.047UF J		
C65 ,66			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C67 ,68			CF92FV1H124J	MF 0.12UF J		
C69 ,70			CE04LW1H2R2M	ELECTRO 2.2UF 50WV		
C71 -75			CE04LW1V4R7M	ELECTRO 4.7UF 35WV		
C76			CE04LW1V100M	ELECTRO 10UF 35WV		
C77 ,78			CF92FV1H104J	MF 0.10UF J	E	
C85 ,86			CF92FV1H224J	MF 0.22UF J		
C87 ,88			CC45FSL1H101J	CERAMIC 100PF J		
C93 ,94			CC45FSL1H030C	CERAMIC 3.0PF C	KPUUE	
C93 ,94			CC45FSL1H050C	CERAMIC 5.0PF C	E	
C95 -98			CF92FV1H104J	MF 0.10UF J		
C100			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C101-110			CK45FF1H103Z	CERAMIC 0.010UF Z		
C111			CE04LW1C221M	ELECTRO 220UF 16WV		
C112-114			CK45FF1H103Z	CERAMIC 0.010UF Z		
C115			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C116-118			CK45FF1H103Z	CERAMIC 0.010UF Z		
C119		*	CE04LW1H470M	ELECTRO 47UF 50WV		
C120			CE04LW1A470M	ELECTRO 47UF 10WV		
C121		*	CE04LW1V102M	ELECTRO 1000UF 35WV		
C122-125			CE04LW1C470M	ELECTRO 47UF 16WV		
C126			CE04LW1A470M	ELECTRO 47UF 10WV		
C127			CE04LW1V100M	ELECTRO 10UF 35WV		
C128			CK45FB1H102K	CERAMIC 1000PF K		
C129			CE04LW1H010M	ELECTRO 1.0UF 50WV		
C130			CK45FF1H103Z	CERAMIC 0.010UF Z	E	
C132		*	CE04LW1J101M	ELECTRO 100UF 63WV		
C133,134			CK45FF1H223Z	CERAMIC 0.022UF Z		
C135			CK45FB1H102K	CERAMIC 1000PF K		

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73	2D		E23-0149-05	TERMINAL		
E1	3D		E13-0235-05	PHONO JACK (2P) PHONO		
E2	3D		E13-0446-05	PHONO JACK (4P)		
E3 ,4	3D		E13-0819-05	PHONO JACK (8P) TAPE,VIDEO		
E5	2D		E11-0165-05	MINIATURE PHONE JACK(SYS CONT)	KPUUE	
E5	2D		E11-0168-05	MINIATURE PHONE JACK(SYS CONT)	E	
H	1C,2C		N09-0333-05	TAPPING SCREW (3X12)		
CP1 ,2			R90-0187-05	MULTI-COMP 0.22X2 K 5W		
R112			RD14GB2E220J	FL-PROOF RD 22 J 1/4W		
R157,158			RS14KB3D4R7J	FL-PROOF RS 4.7 J 2W		
R161			RD14GB2E151J	FL-PROOF RD 150 J 1/4W		
R172			RD14GB2E101J	FL-PROOF RD 100 J 1/4W		
K1	2C		S51-2078-05	MAGNETIC RELAY		
D1 -52			1SS133	DIODE		
D1 -52			1SS176	DIODE		
D53			HZS5.1N(B2)	ZENER DIODE		
D53			RD5.1ES(B2)	ZENER DIODE		
D54			HZS3.3N(B2)	ZENER DIODE		
D54			RD3.3ES(B2)	ZENER DIODE		
D55 ,56			RD18ES(B)	ZENER DIODE		
D57			HZS6.2N(B2)	ZENER DIODE		
D57			RD6.2ES(B2)	ZENER DIODE		
D58			1SS133	DIODE		
D58			1SS176	DIODE		
D59 ,60			HZS6.8N(B2)	ZENER DIODE		
D59 ,60			RD6.8ES(B2)	ZENER DIODE		
D61			HZS5.1N(B2)	ZENER DIODE		
D61			RD5.1ES(B2)	ZENER DIODE		
D62			1SS131	DIODE		
D62			1SS178	DIODE		
D64 ,65			HZS6.2N(B2)	ZENER DIODE		
D64 ,65			RD6.2ES(B2)	ZENER DIODE		
D66 -68			1SS131	DIODE		
D66 -68			1SS178	DIODE		
D69			RD4.7ES(B)	ZENER DIODE		
D70			HZS5.1N(B2)	ZENER DIODE		
D70			RD5.1ES(B2)	ZENER DIODE		
D71			HZS6.2N(B2)	ZENER DIODE		
D71			RD6.2ES(B2)	ZENER DIODE		
D76 ,77			1SS133	DIODE		
D76 ,77			1SS176	DIODE		
IC1			M5218P-A	IC(OP AMP X2)		
IC1			NJM4558D-A	IC(OP AMP X2)		
IC2			TC9164N	IC(16CH BILATERAL SELECTOR SW)		
IC3			TC9163N	IC(BILATERAL SWITCH X16)		
IC4		*	TC9162N	IC(ANALOG SWITCH ARRAY)		
IC5			M5218P-A	IC(OP AMP X2)		
IC5			NJM4558D-A	IC(OP AMP X2)		
IC6			LC7522	IC(7CH GRAPHIC EQUALIZER)		
IC7 ,8			M5229P	IC(7CH GRAPHIC EQULIZER)		
IC10			CXD1120P-1	IC(ELECTRONIC VOLUME)		
IC12			UPC78M15H	IC(VOLTAGE REGULATOR/ +15V)		
Q9 ,10			2SC2878	TRANSISTOR		

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Q11			2SA733(A)(Q,P)	TRANSISTOR		
Q13 ,14			2SC945(A)(Q,P)	TRANSISTOR	E	
Q17 ,18			2SC2878	TRANSISTOR		
Q19			2SC945(A)(Q,P)	TRANSISTOR		
Q20			2SA733(A)(Q,P)	TRANSISTOR		
Q25			2SB941(Q,P)	TRANSISTOR		
Q27		*	2SD1929	TRANSISTOR		
Q28			2SA733(A)(Q,P)	TRANSISTOR		
Q29			2SA992(F,E)	TRANSISTOR		
Q30			2SD1266(Q,P)	TRANSISTOR		
Q31 ,32			2SA733(A)(Q,P)	TRANSISTOR		
Q33 ,34			2SD1266(Q,P)	TRANSISTOR		
Q37 ,38			2SC3419(Y)	TRANSISTOR		
Q39 ,40		*	2SC3855*5	TRANSISTOR		
Q41 ,42		*	2SA1491*5	TRANSISTOR		
DISPLAY UNIT (X14-2130-12)						
D8	3B		B30-0431-05	LED(LN21CPH) POWER STAND BY		
C1			C91-0769-05	CERAMIC 0.01UF M		
C2 -4			C91-0745-05	CERAMIC 100PF K		
C5			CE04CW1A101M	ELECTRO 100UF 10WV		
C7		*	CE04CW1V220M	ELECTRO 22UF 35WV		
C8			CE04CW1A101M	ELECTRO 100UF 10WV		
C9			C91-0759-05	CERAMIC 0.0015UF M		
C10 ,11			C91-0745-05	CERAMIC 100PF K		
C12			CE04JW0J100M	ELECTRO 10UF 6.3WV		
C13			CE04CW1A101M	ELECTRO 100UF 10WV		
C14 ,15			CE04JW1C4R7M	ELECTRO 4.7UF 16WV		
C16			CE04JW0J100M	ELECTRO 10UF 6.3WV		
C21			CE04LW1H010M	ELECTRO 1.0UF 50WV	E	
C23			CE04LW1V4R7M	ELECTRO 4.7UF 35WV	E	
C24 -30			CE04LW1H010M	ELECTRO 1.0UF 50WV	E	
C31 ,32			CF92FV1H104J	MF 0.10UF J	E	
C33 ,34			CF92FV1H682J	MF 6800PF J	E	
C35 ,36			CF92FV1H153J	MF 0.015UF J	E	
C37			CC45FSL1H271J	CERAMIC 270PF J	E	
C38 ,39			CK45FB1H471K	CERAMIC 470PF K	E	
C40 ,41			CF92FV1H102J	MF 1000PF J	E	
C42 ,43			CF92FV1H272J	MF 2700PF J	E	
C44 ,45			CF92FV1H473J	MF 0.047UF J	E	
C51 ,52			CE04LW1C470M	ELECTRO 47UF 16WV		
C53		*	CE04LW0J471M	ELECTRO 470UF 6.3WV		
C54			CE04LW1V100M	ELECTRO 10UF 35WV		
C55		*	CE04LW0J471M	ELECTRO 470UF 6.3WV		
C56 ,57			CE04LW1V100M	ELECTRO 10UF 35WV		
C58		*	CE04LW0J471M	ELECTRO 470UF 6.3WV		
C61			CF92FV1H104J	MF 0.10UF J		
C62			CF92FV1H333J	MF 0.033UF J		
C63			CE04LW1C470M	ELECTRO 47UF 16WV	UUE	
C64		*	CE04LW0J222M	ELECTRO 2200UF 6.3WV		
C65			C90-1416-05	ELECTRO 18UF 5.5WV		
C66			CE04LW1H010M	ELECTRO 1.0UF 50WV		
E1 -3	1D	*	E13-0291-05	PHONO JACK (MONITOR OUT,VIDEO)		
L1			L40-1021-14	SMALL FIXED INDUCTOR(1.0MH,K)		

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X1			L78-0209-05	RESONATOR (4.194MHZ)		
X1			L78-0218-05	RESONATOR		
CP1 ,2			R90-0461-05	MULTI-COMP 47KX6 J 1/6W		
CP3			R90-0227-05	MULTI-COMP 4.7KX6 J 1/6W		
CP4			R90-0453-05	MULTI-COMP 4.7K J 1/6W		
CP5		*	R90-0483-05	MULTI-COMP 100KX13 J 1/6W		
CP6		*	R90-0465-05	MULTI-COMP 100K13 J 1/6W		
CP7			R90-0278-05	MULTI-COMP 100KX7 J 1/6W		
CP8 ,9		*	R90-0482-05	MULTI-COMP 100KX4 J 1/6W		
CP10		*	R90-0484-05	MULTI-COMP 4.7KX12 J 1/6W		
CP11		*	R90-0482-05	MULTI-COMP 100KX4 J 1/6W		
R105		*	RS14KB3A271J	FL-PROOF RS 270 J 1W	E	
R169			RD14GB2E150J	FL-PROOF RD 15 J 1/4W	UUE	
VR1			R12-1070-05	TRIMMING POT.(1K)SPEC ANA SENS	E	
S1 ,2	2B,3B		S40-1064-05	PUSH SWITCH(POWER,VOLUME UP)		
S3 -28	1A,1B		S40-1064-05	PUSH SWITCH	E	
S3 -29	1A,1B		S40-1064-05	PUSH SWITCH	KPUUE	
S31 -49	1B		S40-1064-05	PUSH SWITCH	KPUUE	
S31 ,32	1B		S40-1064-05	PUSH SWITCH	E	
S34 -39	1B		S40-1064-05	PUSH SWITCH	E	
S41	1B		S40-1064-05	PUSH SWITCH	E	
S43	1B		S40-1064-05	PUSH SWITCH	E	
S45	1B		S40-1064-05	PUSH SWITCH	E	
S47 ,48	1B		S40-1064-05	PUSH SWITCH	E	
S52	1B		S40-1064-05	PUSH SWITCH	E	
S55 -61	1B		S40-1064-05	PUSH SWITCH	E	
S56 -61	1B		S40-1064-05	PUSH SWITCH	KPUUE	
S62 -68	1B		S40-1064-05	PUSH SWITCH		
S69 -80	1B		S40-1064-05	PUSH SWITCH		
D1 -7			1SS133	DIODE		
D1 -7			1SS176	DIODE		
D9 -12			1SS133	DIODE	KPUUE	
D9 -12			1SS176	DIODE	KPUUE	
D9 -13			1SS133	DIODE	E	
D9 -13			1SS176	DIODE	E	
D14			1SS133	DIODE	KPUUE	
D14			1SS176	DIODE	KPUUE	
D17 -37			1SS133	DIODE		
D17 -37			1SS176	DIODE		
D39			1SS131	DIODE	E	
D39			1SS178	DIODE	E	
D39 -46			1SS131	DIODE	KPUUE	
D39 -46			1SS178	DIODE	KPUUE	
D41 -46			1SS131	DIODE	E	
D41 -46			1SS178	DIODE	E	
D48 -54			1SS133	DIODE		
D48 -54			1SS176	DIODE		
D61			HZS6.8N(B2)	ZENER DIODE	E	
D61			RD6.8ES(B2)	ZENER DIODE	E	
D62			1SS133	DIODE	E	
D62			1SS176	DIODE	E	
D65 -72			1SS133	DIODE	E	
D65 -72			1SS176	DIODE	E	
D73			HZS6.2N(B2)	ZENER DIODE	E	

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D73			RD6.2ES(B2)	ZENER DIODE	E	
D81 -98			1SS133	DIODE		
D81 -98			1SS176	DIODE		
D99			HZS5.6N(B2)	ZENER DIODE		
D99			RD5.6ES(B2)	ZENER DIODE		
D100			HZS2.7N(B2)	ZENER DIODE		
D100			RD2.7ES(B2)	ZENER DIODE		
D111-118			1SS133	DIODE		
D111-118			1SS176	DIODE		
FL1	2A	*	FIP20AMW30	FLUORESCENT INDICATOR TUBE		
IC1		*	UPD75108CW-041	IC(MICROPROCESSOR)		
IC2 -5			UPA80C	IC(7CH TRANSISTOR ARRAY)		
IC6		*	UPD6300C	IC(FL LATCH DRIVER)		
IC7			LC7565	IC(GRAPHIC EQ FL DISPLAY DR)		
IC8 ,9			LB1294	IC(6CH DARLINGTON DRIVER)		
IC10,11			UPD4001BC	IC(NOR X6)		
IC12,13			UPD4066BC	IC(BILATERAL SWITCH X4)		
IC14-17			AN6556	IC(OP AMP X2)	E	
Q1 -4			DTA143EFF	DIGITAL TRANSISTOR		
Q7			2SC945(A)(Q,P)	TRANSISTOR		
Q8 -10			2SA999(E,F)	TRANSISTOR		
Q11			2SC1845(F,E)	TRANSISTOR		
Q12			2SC945(A)(Q,P)	TRANSISTOR		
Q13			2SC2003(L,K)	TRANSISTOR	KPE	
Q13			2SD1266	TRANSISTOR	UUE	
Q14			2SC945(A)(Q,P)	TRANSISTOR		
E4	3B		W02-0692-05	ELECTRIC CIRCUIT MODULE		
FM FRONT-END ASS'Y (W02-0699-05) : KPUUE						
D1 -3			1SV110	DIODE		
TR1			2SK439	TRANSISTOR		
TR2 ,3			2SC3391	TRANSISTOR		
TR4			2SC3494	TRANSISTOR		
FM FRONT-END ASS'Y (W02-0700-05) : E						
D1 -4			1SV110	DIODE		
TR1			3SK85	TRANSISTOR		
TR2 ,3			2SC3391	TRANSISTOR		
TR2 ,3			2SC535	TRANSISTOR		
TR4			2SC2839	TRANSISTOR		
TR5			2SK241	TRANSISTOR		
TR5			2SK439	TRANSISTOR		

E: Scandinavia & Europe K: USA P: Canada
U: PX(Far East, Hawaii) T: England M: Other Areas
UE: AAFES(Europe) X: Australia

⚠ indicates safety critical components.

SPECIFICATIONS

AUDIO SECTION

Power Output

80 watts per channel minimum RMS, both channel driven at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.008% total harmonic distortion

90 watts per channel minimum RMS, both channel driven at 8 ohms at 1kHz with no more than 0.008 % total harmonic distortion

Total Harmonic Distortion	
(20 Hz-20,000 Hz, 8 ohms)	0.008 % at 80 W
(1 kHz, 8 ohms)	0.002 % at 80 W
Intermodulation Distortion	0.008 % at 80 W
Input Sensitivity/Impedance	
PHONO (MM)	3.0 mV/47 kohms
CD/AUX, TAPE	200 mV/47 kohms
VIDEO	250 mV/47 kohms
Frequency Response	
PHONO (RIAA standard Curve)	20 Hz – 20,000 Hz... ±0.5 dB
TAPE, CD/AUX, VIDEO	10 Hz – 100,000 Hz... +0 dB, −3 dB
Signal to Noise Ratio	
PHONO (MM)	73 dB
CD/AUX, TAPE	100 dB
VIDEO	90 dB
Graphic Equalizer	
Center Frequency	60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz
Control Range	±12 dB

VIDEO SECTION

Inputs VODEO 1,2,3	1Vp-p, 75 ohms unbalanced
Outputs VIDEO 1,2	1 Vp-p, 75 ohms unbalanced
MONITOR VIDEO OUT	1 Vp-p, 75 ohms unbalanced

FM TUNER SECTION

Tuning Frequency Range	87.5 MHz – 108 MHz
Antenna Impedance	75 ohms unbalanced
Usable Sensitivity	10.8 dBf (0.95 μV)
50 dB Quieting Sensitivity	
MONO	14.2 dBf (1.4 μV)
STEREO	37.2 dBf (20 μV)
Signal to Noise Ratio at 65 dBf	
MONO	80 dB
STEREO	74 dB
Total Harmonic Distortion at 1,000 Hz	
MONO	0.07 %
STEREO	0.1 %
Frequency Response	30 Hz – 15,000 Hz + 0.5 dB, −2 dB
Stereo Separation	50 dB at 1,000 Hz
Selectivity	55 dB at 400 kHz
Capture Ratio	1.0 dB
Image Rejection Ratio	43 dB
IF Rejection Ratio	86 dB
Spurious Rejection Ratio	83 dB
AM Suppression Ratio	62 dB

AM TUNER SECTION

Tuning Frequency Range
530 kHz – 1,610 kHz
(with the AM tuning interval set at 10 kHz)
531 kHz – 1,602 kHz
(with the AM tuning interval set at 9 kHz)

Usable Sensitivity	10 μV/(400μV/m)
Signal to Noise Ratio	50 dB
Total Harmonic Distortion	0.3 %
Selectivity	25 dB

GENERAL

Power Consumption	3.5A... USA Model/200W... Others
AC Outlet	Switched × 3 (200 W) (Except for some areas)
Dimensions	420(W) × 133(H) × 369(D)mm (16-9/16"×5-1/4"×14-1/2")
Weight (Net)	9.5 kg (20.9 lb)

Note:
We follow a policy of continuous advancements in development. For this reason specifictions may be changed without notice.

Note :
Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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